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Canada. National Capital Planning Service

PLAN  
FOR THE  
NATIONAL CAPITAL

CANADA



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PRELIMINARY REPORT

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NATIONAL CAPITAL PLANNING SERVICE

OTTAWA

JACQUES GRÉBER, CONSULTANT

OTTAWA  
EDMOND CLOUTIER, C.M.G., B.A., L.Ph.,  
KING'S PRINTER AND CONTROLLER OF STATIONERY  
1949

## PREAMBLE

The Preliminary Report herewith submitted is the first draft of the text of a book now in course of preparation, which will more completely present and describe our work, and which will be fully supplemented by illustrations, consisting of plans, diagrams and statistical graphs in colour and monochrome, and by many photographs relevant to the National Capital Region, past and present. It will be the *Final Report*, to be published in two editions, English and French. The time necessary for the completion of a more elaborate book requires experiments, trials and revisions, which would delay by several months the presentation of our conclusions, while this preliminary draft permits us to submit them for the immediate consideration of the National Capital Planning Committee.

The text of the Preliminary Report is presented in four parts, i.e.:

- Part I—General Survey
- Part II—Justification of Proposals
- Part III—Schedule of Execution
- Part IV—General Recommendations

The most important plans, graphs, diagrams and some photographs pertinent to the report, presented in reduced or original sizes, form an Album suitable for reference and consultative purposes.

All original drawings and other documents prepared since the initiation of our work are at the disposal of the members of the Committee, at the offices of the National Capital Planning Service, Room 136, Hunter Building. A catalogue of these documents is appended as a reference list.

The following models prepared under the direction of the National Capital Planning Service are also available for inspection:

- 1 — General model of the central part of the Capital Area, 1"=100'.
- 2 — Detailed model of the Civic Centre, 1"=30'.

NOTE: References to Plate Numbers on margin of text refer to the contents of the Album of Plans.



## PREFATORY NOTE

On August 22nd, 1945, I received from the Honourable Alphonse Fournier, Minister of Public Works, the following cablegram:

IN LIEU OF ANY OTHER MEMORIAL OF THE WAR JUST ENDED  
THE GOVERNMENT HAS APPROVED OF FURTHER DEVELOPMENT  
OF CANADA'S NATIONAL CAPITAL AND ITS ENVIRONMENT  
ON BOTH SIDES OF THE OTTAWA RIVER STOP WE ARE  
DESIROUS THAT BASIC PLAN AS LAID BY YOU AND  
PARTIALLY CARRIED OUT SHOULD BE FURTHER EXPANDED  
TO INCORPORATE NEWLY DEFINED AND CONSIDERABLY  
ENLARGED LIMITS STOP THE PRIME MINISTER HAS ASKED  
ME TO ASCERTAIN FROM YOU IF YOU WOULD BE PREPARED  
TO UNDERTAKE SUCH A COMMISSION STOP PLEASE  
ADVISE IF YOU CAN COME IMMEDIATELY.

I deeply appreciated the great honour extended to me by the Federal Government and immediately obtained, from my Government, its permission to entrust to my assistants my work as General Inspector of Reconstruction and Town Planning in France, in order to enable me to undertake the task to which I was called by the Canadian Government.

On arrival in Ottawa, October 2nd, I was interviewed by the press to whom I stressed the importance of the work and the example given by Canada in dedicating as a National War Memorial the master plan of the Capital. *Such work was to be a national scheme, to be accomplished with the co-operation of Canadian architects, engineers and technicians, under the guidance of a National Capital Planning Committee.*

A general programme of work contemplated was submitted to the Federal Government on November 16, 1945, and confirmed a previous report submitted to the Right Honourable the Prime Minister on June 7th, 1939, relative to work which I had been already privileged to undertake for the Federal Government at that time.

Extracts from those two reports follow hereunder:

1 — *Report to the Right Honourable the Prime Minister,  
June 7th, 1939.*

I understand that the question may be considered of eventually creating a District Capital for the Dominion of Canada, along the principle of the District of Columbia in the United States.

As I have no qualifications for discussing the need of a Federal District Capital from the political or general administration viewpoint, I beg to submit to you the following remarks, limited to the *purely city planning problem*.

Several examples of regional planning and comprehensive by-laws on city development, in Europe and in America, show that this particular problem, even when it affects a large number of municipalities, may be *successfully studied and solved without deeply changing their respective administrations*, but by organizing, only for the purpose of their *better co-ordinated planning and common zoning and building legislation*, a central *Planning Board*, specially appointed to elaborate and to control the execution of the plans and the enforcement of the by-laws.

Representatives of the different cities and towns included in the regional area, determined according to its physical conditions and eventual needs, should be members of the *Planning Board*, as well as delegates of the various Departments interested. The Board should act under the authority of the Government as an inter-departmental and arbitrating agency. Jurists, hygienists, engineers of the various technical services co-operating in city and land development, architects, landscape artists, also representatives of historical and touristic organizations, should be consulted by the Board, and work under the co-ordinating advice of a City Planner as chief consultant.

*An executive committee*, selected from amongst the General Board, should prepare the studies, plans and reports to be submitted to the Board meetings for discussion and final approval.

This short description is inspired from the *Comité Supérieur de l'Aménagement de la Région Parisienne*, which includes the whole agglomeration of more than six hundred cities, townships and villages directly connected with the city of Paris, within a radius of approximately twenty miles from the centre of the city, and depending upon several different departments or prefectoral administrations.

Other regional plans in France are being prepared along similar principles for all important urban centres.

The New York Regional Plan, the Philadelphia Tri-State Planning Corporation (Pennsylvania, New Jersey and Delaware), are other examples of similar central authorities, entrusted with a *purely technical work, without interfering with the existing Town or State administrations*.

If a comparison could be made with the Capital City of Canada, it seems quite logical that such a Planning Board could be organized under the leadership of an *enlarged and completed Federal District Commission*, working with the collaboration of the Cities' and Towns' administrations involved within the delimitation of the Capital Region, and under the superior authority of the Federal Government.

2 — *Memorandum on preliminary work to the master plan of the National Capital, November 16, 1945.*

. . . The first work to be prepared is the *civic survey*. (A list of requirements for general documentation was then submitted.)

*A general meeting of all the technicians*, likely to supply information for the regional survey, was held in the auditorium of the Art Gallery on November 9.

. . . While our executive service was being organized and basic plans under way, we had to solve *urgent questions on local problems* with Messrs. Sutherland, Brault and Rankin, of the Department of Public Works, in co-ordinating previous plans and their relation to the present scheme.

### *Conclusion*

1. As stated in several addresses and in press interviews, the work entrusted to me is of *national character*, and, to make its success sure and rapid, I should like to act as *Consultant to a National Capital Planning Committee, working in full co-operation with the Federal District Commission*.

2. An organization should be created as soon as possible, which would form a suitable unit, with board room, clerical and stenographic services, with special filing, documentation and drafting room accommodations. This organization, appointed under the authority of Honourable the Minister of Public Works, should work under my immediate direction in conjunction with the National Capital Planning Committee.

3. *The working staff* should be composed of English and French speaking Canadian architects and engineers.

As a tentative nucleus I should suggest:

- a) Civic and regional surveys: Mr. Kitchen with the necessary staff.
- b) Master Plan: Mr. Fiset, in charge of the necessary staff, would also act as Mr. Gréber's representative to generally co-ordinate the work of a) and b), and assure permanent correspondence with Mr. Gréber while abroad.

Mr. Sutherland, Mr. Brault and Mr. Rankin would give their assistance and advice, as they so efficiently did for previous work.

4. Technical advisers of the National Capital Planning Committee would be consulted during the preparation of the project, as and when needed.

5. The plans and other documents, to be prepared under my direction, as per list of services (see page 5), will be embodied in a *General Report*, which will be used, after its approval, as the *Chart of future development of the Region*

defined by Order in Council P.C. 5635, of August 16, 1945, and will serve as *master plan and programme* for the further study of the local plans of all municipalities included in the region.

6. The undertaking of the present work is remarkably opportune, as many operations involved in it, such as grading work, road making, widening, or repairing, landscape or planting work, draining, filling in, construction of country bridges, etc., are particularly suitable to emergency re-employment, calling for non-specialized labour.

The major and gradual operations, of further emergency, to undertake according to *schedule of work to be established*, will help the reconversion of various public works and building industries and trades. This second and extended class of operations will give employment both to skilled and non-specialized labour, to a long range of craftsmen, mechanics, engineers and artists, all directly interested in the post-war program of work.

7. Therefore, the appropriation to be made for the accomplishment of the Plan and Report will be *largely paid by saving of expenses, time and researches* which would undoubtedly occur by lack of co-ordinated and comprehensive pre-planning. In other words, the *budgets of federal, provincial and municipal* operations to be undertaken for a period of at least 25 years, will be *enlightened*, the work made easier and more efficient, and the service to the public more satisfactory.

The money spent to foresee and prevent is a sure investment of public funds.

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P.C. No. 6721

*Extract from certified copy of a Minute of a Meeting of the  
Committee of the Privy Council, approved by  
His Excellency the Administrator on  
the 31st October, 1945*

The Committee of the Privy Council have had before them a report, dated 25th October, 1945, from the Minister of Public Works, stating:

That under the authority of Orders in Council P.C. 63/185 dated January 28, 1937, and P.C. 2013 of August 17, 1938, Mr. Jacques Gréber, S.F.U., S.C., S.A.D.G., City Planner and Architect of Paris, France, was engaged to make a study and submit a scheme of development of Government buildings to be erected along the bank of the Ottawa River on either side of the Parliament Buildings, and to also submit plans for the further development of the areas adjacent to Wellington Street and Mackenzie Avenue;

That under the authority of Order in Council P.C. 5635 of August 16, 1945, an area comprising some 900 square miles, more or less, adjoining the City has been defined as the National Capital district and it has been decided to re-engage Mr. Gréber to make a study of that area with a view of preparing plans for a suitable long-term development of such area as a National War Memorial;

That Mr. Greber will be required to:

(List of Services)

1. Direct the preparations of graphic survey: basic plan and various cartograms, diagrams, photographic illustrations, etc., including guidance for research and graphic representation of all elements of the survey, by advice and documentary examples, bibliography, etc.
2. Direct the preparation of the proposed master plan, by advice and furnishing personal preliminary drawings and sketches, in Ottawa or from Paris, as previously done.
3. Direct the preparation of proposed by-laws, zoning ordinances and planning programs.
4. Direct the preparation of eventual scale model.
5. Study and advise on the eventual local operations while final report is being prepared.
6. Direct the preparation of the final report and basic plans.

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#### DEFINITION OF THE NATIONAL CAPITAL REGION

P.C. No. 5635

August 16, 1945.

*Extract from certified copy of a Minute of a Meeting of the Committee of the Privy Council, approved by His Excellency the Governor General on the 16th August, 1945*

The Committee of the Privy Council have had before them a report, dated 29th May, 1945, from the Right Honourable W. L. Mackenzie King, the Prime Minister, representing that the Joint Committee of the Senate and House of Commons appointed to review special problems arising out of the location of the seat of Government in the City of Ottawa and other matters made a report on the first of August, nineteen hundred and forty-four, recommending inter alia:

## 3. That for the said purposes "National Capital district" be defined as follows:

Commencing at a point where the division line between the Townships of McNab and Fitzroy in the Province of Ontario meets the south shore of the Ottawa river; thence southwesterly along the said division line to the line between Concessions 2 and 3 in the Township of Fitzroy; thence southeasterly along the last-mentioned line to the line between Lots 15 and 16 in the said Township; thence northeasterly along the last-mentioned line and across Concessions 3, 4, 5, 6, 7, 8, 9, 10, 11 and 12 to the line between the Townships of Fitzroy and Torbolton; thence southeasterly along the last-mentioned line and continuing along the line between the Townships of Huntley and March to meet the line between the Townships of March and Goulbourn; thence northeasterly along the last-mentioned line to the line between the Townships of Goulbourn and Nepean; thence southerly along the last-mentioned line to the line between Lots 30 and 31, Rideau Front in the Township of Nepean; thence northeasterly along the last-mentioned line to the line between Concessions 2 and 3, Rideau Front, in the Township of Nepean; thence southerly along the last-mentioned line to the line between the Townships of Nepean and North Gower; thence easterly along the last-mentioned line and continuing along the line between the Townships of Gloucester and Osgoode to meet the line between the Townships of Gloucester and Cumberland; thence northwesterly along the line between the Townships of Gloucester and Cumberland and continuing along the line between the Townships of Gloucester and Cumberland to its intersection with the south shore of the Ottawa river; thence crossing the Ottawa river in a straight line to its north shore to the point where the line between the Townships of Templeton and Buckingham, Province of Quebec, intersects the river; thence northerly along the last-mentioned line to the line dividing the Gore of Templeton from Range 1 in the Township of Portland; thence westerly along the last-mentioned line and continuing westerly along the line between Range 4 and Range 5 in the Township of Wakefield to the line between the Townships of Wakefield and Masham; thence northerly along the last-mentioned line to the line between Ranges 4 and 5 in the Township of Masham to the line between the Townships of Masham and Onslow; continuing westward along the line between Range 11 and Range 12 in the Township of Onslow to meet the line between the Townships of Onslow and Bristol; thence southerly along the last-mentioned line to its intersection with the north shore of the Ottawa river; thence southwesterly in a straight line across the Ottawa river to the place of beginning, comprising 900 square miles more or less.

CREATION OF THE  
NATIONAL CAPITAL PLANNING COMMITTEE

March 8th, 1946.

(Federal District Commission By-law No. 28)

Pursuant to the provisions of By-law No. 27 of the Federal District Commission, as approved by Order in Council P.C. 5634, August 15, 1945, under which the Commission is empowered to appoint a committee, or committees, for the planning, development, improvement and beautification of the National Capital District Be it enacted as By-law No. 28 of the Federal District Commission:

That a committee shall be formed to be known as the National Capital Planning Committee consisting of seventeen members which shall be the permanent planning body for the National Capital District, the boundaries of which are defined by the said By-law No. 27.

The Committee shall consist of the Minister of Public Works of the Government of Canada, the Chairman of the Federal District Commission, two members appointed by the Corporation of the City of Ottawa, one member appointed by the Corporation of the City of Hull, and twelve members appointed by the Federal District Commission of whom two shall represent The Engineering Institute of Canada, two The Royal Architectural Institute of Canada, one the County of Carleton, Ontario, one the County of Gatineau, Quebec, and six others. The Committee shall be directly responsible to the Commission for its actions.

The members of the committee shall be Canadian citizens of standing and repute who by training and experience, or by virtue of their position, may be considered to have an especial interest, either from a national or local viewpoint, in the preparation and execution of suitable plans for the co-ordinated development of the National Capital District. The Commission shall have the right to replace any member at any time for cause and to fill vacancies as they occur.

The function of the committee shall be to draw up a master plan of the National Capital District as it considers desirable and to advise the Commission on its subsequent and gradual development over a term of years having in mind at all times the necessary interest of the people as represented by the Government of Canada, the Government of the Provinces of Ontario and Quebec, the cities of Ottawa and Hull and other municipalities within the National Capital District.

The Committee shall meet in Ottawa as often as is necessary and shall hear and carefully consider representations at any time from any municipal or governmental body within the National Capital District and from such other bodies or associations as they may decide to hear, to the end that all interested bodies may help to formulate and design a master plan which will have behind it the maximum amount of public support and approval. All questions at issue in the

Committee shall be decided by a majority vote. The members of the Committee shall serve without remuneration but they shall be paid their actual disbursements for expenses necessarily incurred in the discharge of their duties. The Secretary of the Commission shall act as the secretary of the Committee.

The Committee shall appoint, and have charge of, such staff as it requires for the proper and prompt carrying out of its functions and shall fix their remuneration and length of service. Mr. Jacques Gréber, Paris, France, shall act as consultant to the Committee and during his time spent in Ottawa shall have direct charge of the detailed work of the staff. During his absences from Ottawa, the Committee shall appoint one of the staff to act in charge.

All expenses of the Committee shall be paid by the Commission from funds appropriated by the Government of Canada for such purposes. The Commission may accept, however, if it so decides, any moneys which might be contributed by any other governmental body towards defraying a portion of the necessary expenses of the Committee. All expenditures so made shall be subject to the audit of the Auditor General in the same manner as other public moneys.

The Committee shall submit a report to the Government of Canada, through the Commission, from time to time as required, and at least annually, on its activities and of expenditures made on its behalf.

Passed this 8th day of March, 1946.

FEDERAL DISTRICT COMMISSION,  
Ottawa, Canada.

(Sgd.) F. E. BRONSON, *Chairman.*  
(Sgd.) H. R. CRAM, *Secretary.*

MEMBERS OF THE NATIONAL CAPITAL PLANNING COMMITTEE  
AND ITS SUB-COMMITTEES

MAIN COMMITTEE

Frederic E. Bronson, B.Sc., M.E.I.C., Chairman  
Hon. Alphonse Fournier, K.C.  
Col. J.-P. Carrière, M.E.I.C.  
(Succeeded by Yves Bernier, November 8, 1948)  
E. L. Cousins, B.A.Sc., M.E.I.C.  
Charles G. Cowan  
D. P. Cruikshank, O.B.E.  
Charles David, B.A.A., F.R.A.I.C.  
Controller G. W. Goodwin  
R. Leduc, D.D.S.  
A. S. Mathers, B.A.Sc., F.R.A.I.C.  
Controller Finley McRae  
Watson Sellar, C.M.G.  
Arthur Surveyer, D.Eng., M.E.I.C.  
Haldane R. Cram, B.Sc., M.E.I.C., Secretary.

RAILWAY SUB-COMMITTEE

E. L. Cousins, Chairman  
Col. J.-P. Carrière  
Controller G. W. Goodwin

TRAFFIC AND HIGHWAY SUB-COMMITTEE

Charles G. Cowan, Chairman  
D. P. Cruikshank  
Controller Finley McRae

PUBLIC INFORMATION SUB-COMMITTEE

Controller G. W. Goodwin, Chairman  
Col. J.-P. Carrière  
Charles G. Cowan  
Controller Finley McRae  
D. P. Cruikshank

## SCOPE OF THE PROJECT

By establishing a National Capital Region along the lines of the final report of a joint committee of the Senate and House of Commons, and under authority of the Order in Council of August 16, 1945, the Government defined an area comprising some 900 square miles adjoining the City of Ottawa, as the National Capital Region, with a view to the preparation of plans for a suitable long term development of such area.

Therefore, the duty of the National Capital Planning Service was to find out the present and future needs of such an extensive region to prepare the chart of development for a period of about two generations.

It would have been relatively easy, after a superficial survey of the present conditions and trends, to prepare an idealistic map which the most favourable natural setting of the region might have made most attractive, but completely impractical.

It is why the *first* and very important concern of the Service was to concentrate on an *extensive and detailed research*, as stated in the following Part I, called the *General Survey*.

The plan of a National Capital has a double scope: It is the normal chart of development of the existing city or group of municipalities forming the Capital, in view of ensuring the comfort and the welfare of their inhabitants, but it must also answer the many problems related to the life and the function of a capital: government, parliament, diplomatic life, national and international, conventions, in an atmosphere of dignity, welcome, and order, which might be taken as an example for the planning of other cities. These two different aspects have been thoroughly studied, and the appropriate solutions had to be worked out to satisfy the immediate and urgent needs, as well as to prepare the long range operations of ultimate development.

# GENERAL SURVEY



THE NATIONAL CAPITAL REGION



P A R T I

## GENERAL SURVEY

### 1

#### PHYSICAL CONDITIONS

##### *Geographical Site*

*Plate 1*  
*Plate 2*

The region of Ottawa is most favourably located on a site which offers unlimited possibilities for an ideal urban development. Topography, land and water, urban, rural and forest areas, demography, interurban communications, in brief the two fundamental elements of human geography, *natural assets* and *human achievements*, are ideally concurring to help the work of the town planner.

The region of 900 square miles comprises 536 square miles in the Province of Quebec, and 364 square miles in the Province of Ontario.

The Ottawa River is the provincial boundary, but more exactly it forms the control feature of their common attraction.

The Capital Region extends 35 miles north-west—20 miles north-east—15 miles south-west—15 miles south-east from the Peace Tower.

Ottawa lies 126 miles from Montreal and 265 miles from Toronto.

The United States border is distant 45 miles.

With its tributaries, the Gatineau River on the north, the Rideau River and Rideau Canal on the south, the Ottawa River makes quite an attractive framework to the urban development.

The regional territory comprises 19 square miles of present built-up areas, 479 square miles of farmlands, 332 square miles of woodlands, and 70 square miles of water (rivers and lakes).

*Relief*—The general slope of the northern part of the region is toward the south and southeast and that of the southern part towards the north and northeast to the depression or valley occupied by the Ottawa River, but many local irregularities of slope occur owing chiefly to the irregular deposition of the drift deposits. The general slope of the bedrock valleys and consequently that of the bedrock surface is toward the southeast.

The highest part of the region is on the pre-Cambrian upland, where the highest part of the "mountain" has an altitude of nearly 1,300 feet above sea level. The lowest part is in the valley of the Ottawa River below the city of Ottawa, where the surface of the water at low stages has an altitude 127 to 132 feet above the sea. In the city of Ottawa the highest part of Parliament Hill has an altitude of nearly 300 feet.

The lowland in the northwestern portion of the region, north of the Ottawa River, has a general altitude of 300 to 450 feet, the highest part northwest of the town of Aylmer rising to nearly 475 feet. South of the Ottawa River, in the southwestern part of the region, the general altitude is from 250 to 350 feet, but isolated hills rise somewhat higher, the highest point 3 miles west of Stittsville having an altitude of nearly 470 feet. In the southeastern part of the region the highest part of a drift ridge which extends southeastward from Bowesville, has an altitude of 400 feet, but the general altitude along the Rideau River is about 100 feet lower. The drift ridge near Bowesville ends abruptly on the east side of the Rideau valley between Black Rapids and Rideau Junction but continues to a lower altitude on the west side of the river, from the vicinity of Merivale to near Bell's Corners. In the eastern part of the region, deeply underlain by drift, the general relief is less and the general altitude is from 225 to 275 feet.

### *Climate*

*Prepared by B. W. BOVILLE, B.A., Meteorologist, with permission of the Controller, Meteorological Division, Department of Transport.*

The Ottawa region is situated in temperate latitudes and lies in the associated prevailing westerly air stream. Weather disturbances of varying intensity move generally from west to east in the prevailing stream and pass through this region at periods of about 2 to 5 days apart. The energy for these disturbances is derived mainly from surges of warm air moving up from the southwest, and of cold air moving down from the northwest.

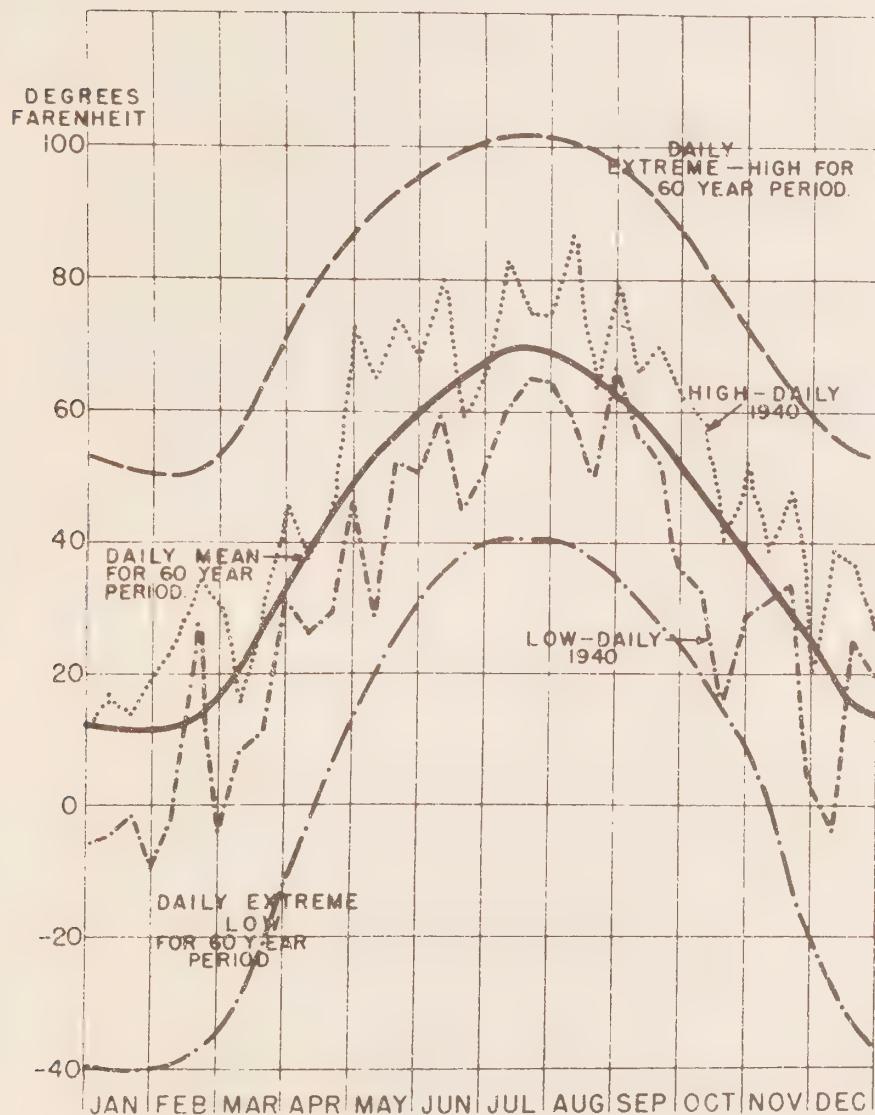
These disturbances cause most of the weather in the region and are usually accompanied by rather marked temperature changes. Thus, apart from the normal seasonal variations in weather, abrupt changes also take place at short intervals.

The intensity of the cold and warm air surges and the tracks of the travelling storms change considerably from month to month and year to year. This causes great variations in the climate from year to year and conditions in one year give no reliable indication of what might be expected in the following year.

Apart from the general pattern of weather of the temperate latitudes the climate is affected to a minor extent by the local geography of the area.

# CLIMATE

## TEMPERATURES CITY OF OTTAWA



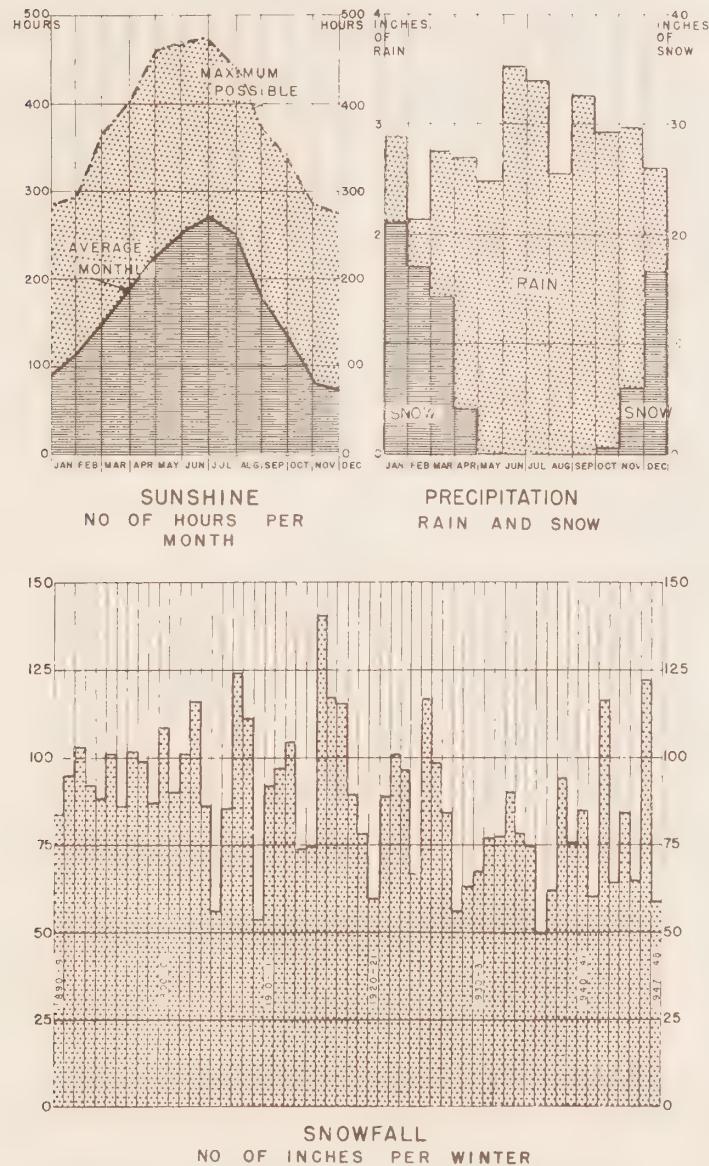
TEMPERATURES

ILLUSTRATION 2



# CLIMATE

## SUNSHINE, RAIN AND SNOW CITY OF OTTAWA

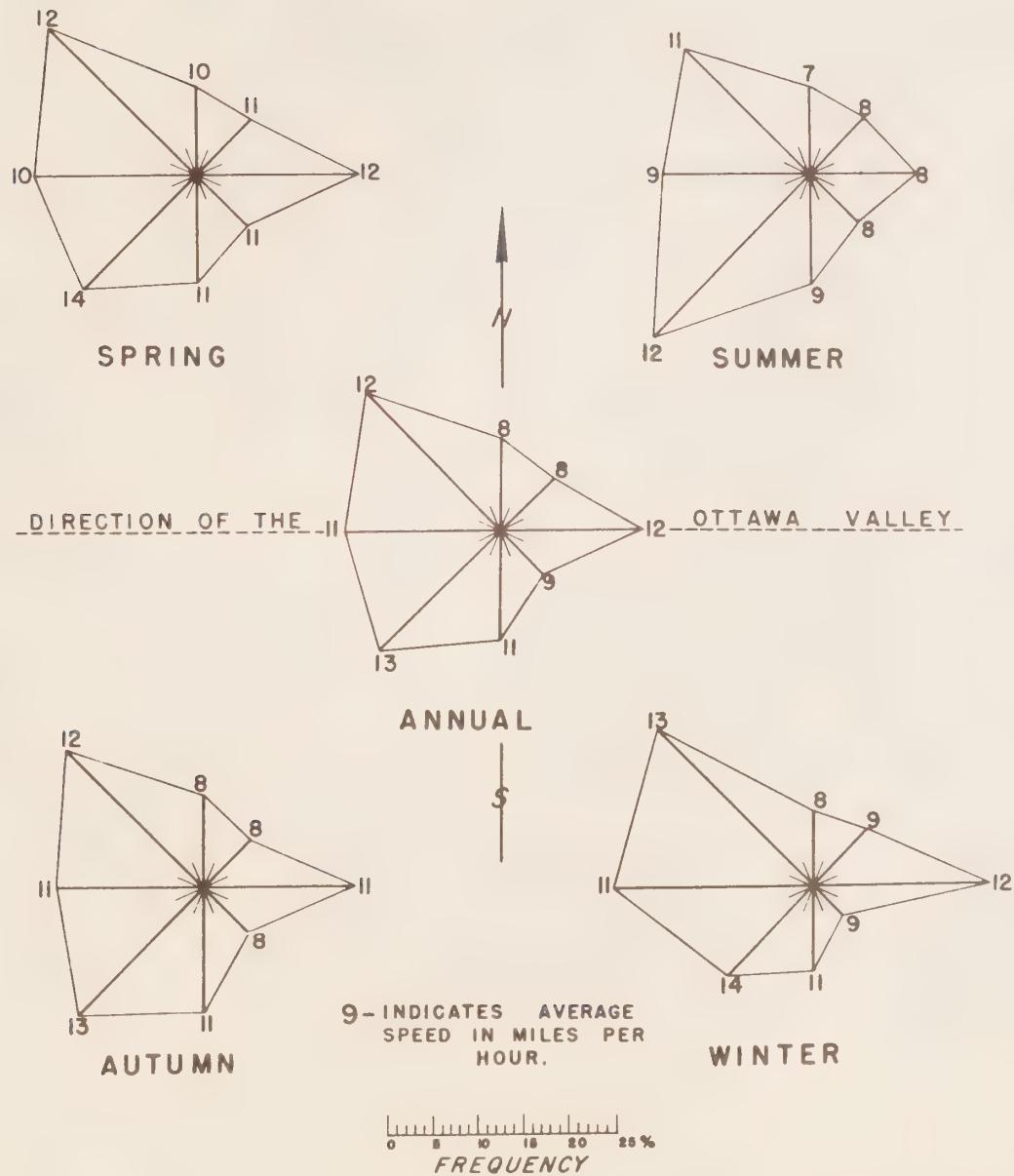


## PRECIPITATIONS—SUNSHINE



# CLIMATE

## WINDS CITY OF OTTAWA



## WINDS



# GEOLOGY



## NATURE OF THE GROUNDS

ILLUSTRATION 5



The Great Lakes have a considerable influence on our climate and to a lesser extent the valleys of the Ottawa and St. Lawrence rivers. The major effect of the Great Lakes is in modifying the temperatures. Cold waves which in winter frequently drop temperatures in the Prairies to 50 degrees below zero are warmed passing over the Great Lakes and do not cause such severe temperature drops at Ottawa.

Severe cold waves at Ottawa occur when the air moves directly down from the north and avoids the relatively warm Lakes. The wind-roses show that the frequency of northerly winds is rather low, and, similarly, the occurrence of severe cold waves, although not uncommon, is rather infrequent.

The modifications of the climate due to the Great Lakes varies with proximity to the Lakes. The average daily temperature in January is 11 degrees warmer at Toronto than at Ottawa. Winter snowfall at Toronto averages about 20 inches less than at Ottawa and this is largely due to the fact that with higher temperatures a greater portion of the precipitation at Toronto falls as rain. In other respects the Toronto climate is much the same as Ottawa.

Average conditions at Montreal are very similar to Ottawa, except that Montreal has more precipitation. The average winter snowfall at Montreal is about 30 inches greater than at Ottawa. This can partly be attributed to the fact that bad weather, from storms moving up the east coast of the United States through the Maritimes, often funnels along the St. Lawrence river valley to Montreal but does not reach north of the valley to Ottawa.

In general, Ottawa has a fairly typical continental temperate climate with a very variable weather pattern which may change radically from day to day. Variations are also caused by local geography and these are most apparent in the winter season.

### *Geology—Nature of the ground*

*Prepared by R. E. DEANE,  
Geological Survey  
Department of Mines & Resources*

Geology, in its broadest sense, affects man in every walk of life. It deals with the history of our earth; the minerals in the earth; the rocks on which we stand, on which we build lines of communication, and on which we erect our temples; the soils and water on which we depend for daily sustenance.

The geology of the National Capital Region is varied and complicated. The oldest rocks, dating back possibly a billion years, are the intrusive, or granitic

rocks so familiar to us in the Gatineau Mountains. Ancient seas invaded this area about 400,000,000 years ago and deposited, on top of the granitic rocks, the material that forms our sedimentary rocks—the shales, limestones, and sandstones. Later, when the land rose and the seas withdrew, the rocks were gradually worn down until the surface was not much different from that of today. Another great change took place about a million years ago. The climate became colder and glaciers advanced from the north over this area. Possibly four such glacial ages, separated by three interglacial periods, with climate such as we enjoy today, occurred. The final retreat of the ice left some of the rocks bare and covered others with great thicknesses of drift or soil. The great load of ice had depressed the land so that the sea again invaded parts of the region and left layers of sand, silt, and clay to mark its borders. Finally, after the ice disappeared, the land again rose to give us a topography much as we see it today.

Two contrasting types of topography in this region are related to the two different kinds of rocks. The topography of the highlands north of Ottawa River, in which we find the pre-Cambrian rocks, is rugged, with rock hills and precipitous slopes. The topography of the lowlands south of the river is gently sloping or undulating. In this area we find the Palaeozoic sedimentary rocks and the deep soils left by the glaciers and the sea.

The oldest, or pre-Cambrian rocks, are part of the Canadian Shield. They comprise the rough, irregular highlands lying north of Ottawa River. The glaciers left the hard, resistant rocks bare, or with only a thin covering of soil so that their general use is limited to forestry, mining, and recreation. Minerals such as mica, hematite, magnetite, apatite, pyrite, galena, molybdenite, and brucite have been found in varying quantities.

In the Ottawa Valley, and to the south, the rocks we see are in the Palaeozoic sedimentary rocks, mainly sandstone, limestone, dolomite and shale. The first three have been used for building stone for many years. They also find a limited use in crushed stone, cement, glass, and brick.

Glacial and marine deposits cover much of the bedrock. The deposits of glacial drift include till, a mixture of boulders, sand, silt and clay, and stratified sand and gravel. In the pre-Cambrian area the drift is thin or absent, but on the Palaeozoic sedimentary rocks the drift may be as much as 50 feet thick. Marine deposits of stratified sand, silt, and clay cover large tracts of the Capital Region, particularly in the lowlands. Sands are generally found at the higher elevations along the old shorelines of the sea, whereas, the clays and silts are more common in the valleys and depressions. The sequence usually seen in building excavations is as follows; at the surface marine sands, marine clays, and silts containing fossil shells, banded clay, till, and finally bedrock. One or more of these layers above the bedrock may be absent. Marine clays are used for the manufacture of brick and tile; sands and gravels find their use in concrete and road metal.

The numerous lakes and small streams of the pre-Cambrian area provide an adequate water supply. South of Ottawa River wells dug in the drift or marine deposits yield water for domestic use. In the sedimentary rocks, sandstone contains the most water, limestone and shale the least.

A thorough geological investigation preliminary to the construction of dams and large industrial plants is essential because of the variable and complicated nature of the bedrock and glacial or marine deposits.

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### *Hydrography — Waterways and Lakes*

#### *Flood Conditions*

The region is drained by the Ottawa River and its tributaries. The Ottawa River is the main stream and flows in a generally easterly direction across the region. The river has not an even gradient, but consists of a series of lake-like expansions or stretches where the gradient is very low, separated by falls and rapids. At the Chaudiere Falls near Ottawa the river falls 25 to 30 feet over flat-lying limestone and, above the falls, a series of rapids separated by short stretches of water occurs. Above Deschenes Rapids, near Britannia, the river occupies in part a broad rock valley and forms an extensive lake-like expansion known as Lake Deschenes, some two miles in width, which extends to the southwestern portion of the area. From Lake Deschenes, in a northwesterly direction, the river is navigable almost to the westerly extremity of the region in the vicinity of Fitzroy Harbor, immediately easterly from which occurs the power dam at Chats Falls. Below the city of Ottawa the river has a very low gradient and flows in a valley largely underlain by marine clays, the bedrock being rarely exposed.

Gatineau River, the second largest stream in the area, joins the Ottawa River from the north, opposite the city of Ottawa. Within the region its waters are dammed for power development purposes at Farmers Rapids, situated some four miles north of its junction with the Ottawa River, for which distance the banks of the river are formed of marine clay and the gradient of the river is very slight. For the upper part of its course it flows in a deep rock valley cut in the pre-Cambrian upland, and is characterized by rapids and falls, with intervening stretches where the flow is relatively slow because of low gradients.

Rideau River, coming from the south, enters the Ottawa River at the city of Ottawa where it falls some 50 feet over the limestone escarpment which forms the south bank of the Ottawa. On top of the escarpment, the river is divided

by Green Island, forming twin falls, which, from their curtain-like appearance, were named Rideau Falls by the early explorers. The use of this historic name was extended to the river and to the many lakes in which it finds its source and from which it flows to the Ottawa River. Throughout the greater part of its course within the region, the Rideau River occupies a valley which is floored by drift deposits, the bedrock outcropping at only a few places. Rapids and falls occur at places where the bedrock outcrops, as at Black Rapids, north of Manotick, Hog's Back, within four miles of the centre of Ottawa, and south of Cumming's Bridge, within the city.

Much could be said on the distinctive characteristics of these rivers, consequent to the differing natures of the lands through which they flow. The Gatineau drains the northern countries, regions of mountains and forests; the Rideau drains the southern countries, flat areas of marsh and farm lands. The former is active and brisk, and in the spring continues to roar turbulently, while the Rideau is beginning to resume its normal leisurely and placid course. The Ottawa River, which is the confluent of both rivers, forms the boundary between two Provinces, each with its inherent demographic, racial and religious characteristics, and also forms the division between two regions, each distinctly characterized geologically. On the north, the Laurentians with its lowlying mountains, its multitude of lakes and rivers and its wild life, extending without interruption to the great north; and on the south, the flat and more hospitable lands, characteristics of the highly productive and fertile lands of southern Ontario, and endowed with much milder climate.

Numerous smaller streams which, especially in their lower portions and in the areas where drift deposits are thick, occupy narrow steep-sided valleys. Of these, the principal are the Lapêche River and Chelsea Creek, each tributary to the Gatineau River; the Quyon River and Breckenridge Creek on the northeast shore of the Ottawa River; Green Creek on the eastern-south shore; and the Carp and Mississippi Rivers in the southwesterly portion of the area. Much of the drift covered portions of the area, particularly in the southerly portion, are, however, only slightly dissected by stream erosion, and there are comparatively large areas in which the nearly level surface of the drift deposits is almost entirely untrenched by streams.

Terraces, cut chiefly in the marine sands and clays, occur along the valleys at considerable heights above the present drainage channels in the eastern part of the region. They occur along the lower portions of the Gatineau and Ottawa River valleys, along the Rideau valley and in the area drained by Green Creek. They are especially well developed south of the city of Ottawa and along the Ottawa River valley and its tributaries below the city of Ottawa.

In the northern portion of the region, lakes are prolific, McGregor, Grand, Lapêche, Philip, Harrington and Meach Lakes being the principal. Such are quite characteristic of the Laurentian formations, where lakes, rivers and streams are perhaps as numerous as in any other region in the world. Two smaller lakes

occur in the pre-Cambrian upland area, i.e., Kingsmere and Pink. In the lowland area, except for the lake-like expansions of the Ottawa River previously referred to, there are relatively few lakes, the largest of which is Constance Lake.

*Flood Conditions*—The Ottawa River, which traverses the region from west to east, is a waterway of considerable magnitude. Its course, within the region, is characterized by a series of falls and rapids, between which are long stretches of navigable waterways. These in places widen out to form large lake-like expansions, in some instances two miles in width, of which Constance Bay and Lake Deschênes are characteristic. In such areas the contiguous shore lands slope gradually toward the water fronts, while at the points of bedrock outcroppings, where occur the rapids and falls, the shore line is characterized by rock escarpments, of more or less magnitude, the whole providing a magnificent scenic waterway.

Typical of such northern waterways, the seasonable water flow of the Ottawa River varies from that of quiet placidity in the summer and fall seasons to extreme turbulence following spring thaws, particularly where rapids and waterfalls occur and at the narrow parts of the river. The following statistics covering water levels and flows gives specific data in this connection:—

#### OTTAWA RIVER WATER LEVELS

PLACE OF READINGS: Britannia, west of Deschênes Rapids.

PERIOD OF READINGS: Years 1902 to 1947.

	HIGH WATER (42 readings)	Low WATER (39 readings)
Average Elevation.....	195.4	189.8
Lowest Elevation.....	193.1 (1915)	188.0 (1937)
Highest Elevation.....	198.4 (1909)	191.1 (1927 and 1928)
Water Discharge.....	<i>Low</i> of 63,300 C.F.S. with water elevation 193.1 (1915)  <i>High</i> of 181,200 C.F.S. with water elevation 196.6 (1943)	<i>Low</i> of 6,900 C.F.S. with water elevation 188.8 (1911)  <i>High</i> of 31,500 C.F.S. with water elevation 191.0 (1932)

PLACE OF READINGS: Rideau Canal Locks.

PERIOD OF READINGS: Years 1876 to 1947.

	HIGH WATER (49 readings)	Low WATER (48 readings)
Average Elevation.....	142.7	129.5
Lowest Elevation.....	136.3 (1931)	126.9 (1914)
Highest Elevation.....	149.2 (1909)	132.5 (1928)

The periods of extreme high water levels give rise to flood conditions which in the urbanized areas of Ottawa, Hull and vicinity are the cause of extensive property damage, in lowlying adjacent land areas. Such conditions are of frequent occurrence, particularly in lowlands situated on the northerly side of the river from Brewery Creek easterly to and beyond the Gatineau River, and including

much of the waterfront development fringing the Gatineau and Ottawa Rivers in the village of Pointe-Gatineau. Such conditions likewise occur along both shore lines of the Ottawa extending westerly from Val-Tetreau and Ottawa West to beyond the villages of Deschênes and Britannia.

Similar conditions are of frequent occurrence on the Rideau River: the nature of the river bed is at points such that the timely provision of water channels through the ice is invariably essential if the heavy water flow incidental to spring thaws is to be controlled and flooding prevented. Local authorities are alert to this situation, but, despite organized efforts, conditions develop and the onrush of water presents itself with a suddenness such that its destructive force cannot be offset. Within the precincts of the Ottawa River the land so affected lies east of the Rideau River from the vicinity of Cumming's Bridge to Hurdman's, and on both sides of the river from Hurdman's southerly to a point three-quarters of a mile east of Billings Bridge.

In the matter of flood control, the Provincial Government of Ontario has recently brought to bear on the problem the full resources and facilities of its specialized Departments of Public Works, Agriculture, Lands and Forests and Highways, in an effort to evolve solution which obviously lies with the utmost co-operation between the Provincial Government and local organizations. The Ontario Minister of Planning and Development, the Honourable Dana Porter, admirably expressed the nature of the problem in saying:

"There are two vital aspects of the problem of flood control. At the time of flood, the most pressing desire is to get rid of water. At that time, for a short period, counted in days, for a few days, water is a menace. It wreaks destruction. Yet a few months later, when the dry season begins, we are faced with the opposite extreme. In the season of drought the most pressing need is for more water. Measures that are merely designed to get rid of as much water as quickly as possible contribute nothing in themselves towards any permanent solution.

"The real problem is one of conservation of water. To hold back, to store, to check the flow, by all means that science, experience, knowledge and common sense have to offer. Water that can be saved, water that can be checked and released gradually, is that much less water to swell the crest at times of peak. It is also water that may later relieve in some degree the effects of drought.

"The great natural place for the storage of water is underground. It has been said that, except the oceans, there is no reservoir for water so vast and effective as the soil. Measures that result in a greater absorption of water in the ground, and check a quick and wasteful run-off, all play an important part in any program of water conservation. Simple conservation practices have been devised and tried with success to accomplish this. They consist of contour farming, terracing, the use of grass crops on sloping land, the provision of small ponds, strip cropping, the protection of streams. All these simple commonsense measures are done to make the soil absorb more water, to make the soil more like a sponge, or, if you like, a blotter. Any general program of practices of this kind requires co-operation of individuals. It needs voluntary agreement as to the best way of carrying them out amongst the owners of the farms yourselves.

"The final method to achieve this end is reforestation on lands that have proven unsuitable for agriculture. Where there is forest, snow melts more slowly, and thus releases water more gradually. Moisture is retained in the soil. Streams tend to maintain their flow even in dry seasons. Forest tends to improve underground water levels."

# 2

## HISTORY

### *History of the National Capital Region*

*Prepared by*

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*and former*

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Plate 9

Capital of the largest country in the two Americas, Ottawa profiles, in sharp relief, against an azure sky, an imposing and sculptural outline of monuments, churches and dwellings that rise, tier upon tier, from the height of her hills. Unfolding before her, at the confluence of two rivers, is a landscape of unique charm in which the variety of aspects adds itself to the harmony of the vistas: the broad-bosomed Ottawa between the graceful waterfall of the Rideau and the boisterous, leaping Chaudière, in front of the compact clustering of Hull houses, and beyond, the verdant countryside divided into fields and woods, quickly rising in a succession of benches towards the picturesque Laurentians, heavily wooded with oak, birch and maple which the autumn suddenly transforms into a blaze of colour and mantles in raiment of gold, purple and bronze. Around her Parliament Hill, girdled by the Ottawa River, and her Sandy Hill which the Rideau skirts, are grouped or scattered, in a far-flung periphery, her grey stone or red brick dwellings, verdure bordering the length of her avenues pleasantly shaded by the broad canopies of stately elms.

A city barely a century old, proud of her political rank, a frontier between French Quebec and British Ontario, Ottawa is above all a government city, rapidly developing, becoming more beautiful and rising to the level of world-wide importance of a young country, suddenly grown into a real international power by reason of its natural resources, its trade and industry, and, still more, because of its economic and military role during those two periods of war and crisis that convulsed the life of nations and continents.

Ottawa is the eldest daughter of the great river the name of which she proudly bears, a name given because it was the route taken for their annual navigations by the Outaouats, that is to say the men of the forest. From time immemorial, garbed in skins, their faces painted in many colours, they came down, every spring, in

bark canoes, laden with furs they traded with the Eastern tribes at the meeting place at Tadoussac. The "road that walks", according to the Indian expression, the Ottawa continued to serve as the great trade artery, after the arrival of the Europeans in the St. Lawrence, in 1535, with Jacques Cartier, the country's discoverer and first explorer. The first white man to appear before the site of the Capital was, in 1610, Nicolas de Vigneau, an "engagé" of the Quebec post, founded two years before. Three years later, in June 1613, Champlain himself, the founder of New-France, camped on the spot. He described the "arcade" formed by the Rideau Falls and the rampaging cascade which the Indians, by reason of its boiling eddies, named Asticou, in French the Chaudière. Confronted by this impassable barrier, all the voyagers were forced to portage, that is to say, to lift their canoes from the water and carry them the full distance of the dangerous rapids. Thus, throughout the whole French Regime, there landed before Parliament Hill, the natives of many nations, as well as the traders and explorers, the missionaries and soldiers of France: the chiefs Tessouat and Kondiaronk, the "coureurs de bois" Radisson and Perrot, the discoverers Du Lhut and La Vérendrye, the Jesuits Jogues and Brébeuf, the officers de Troyes, d'Iberville and Lamothe-Cadillac. Under British rule, until the construction of the railways, the Ottawa remained the main artery, because it was the shortest, of transportation and communications. The first Englishman to ascend its course was, in 1761, the trader Alexander Henry. In the years that followed, there tramped by the foot of the surging, foam-flecked rapids the most famous barons of the Beaver Club, Frobisher, McTavish and Alexander Mackenzie, also two celebrities of their day, Lord Selkirk, founder of Manitoba, and Sir John Franklin, the Arctic explorer. All used the bark canoe which, with a firmly gripped paddle and a song on their lips, canoeists called the *voyageurs*, propelled tirelessly, as they wended their way, by countless rivers and lakes, from Montreal to the Pacific Coast.

Then, all of a sudden, in 1800, there arose, alongside the trader, the man of tomorrow, the settler. He is Philemon Wright, of Woburn, Massachusetts. He took up residence with five families on the opposite shore, on the present site of the city of Hull. What with the felling of the trees of the forest and the growing of cereals, the settlement progressed so rapidly that in 1806, the first rafts of timber descended the river on their way to Montreal. Following the close of the Napoleonic wars, the year 1818 witnessed the arrival of the first group of numerous emigrants, disbanded soldiers, who were given land grants at Richmond, along the Rideau River. Their passing led an adventurous pioneer, Jehiel Collins, to construct the first house, a kind of tavern, in the future Ottawa at the terminal point of navigation, at the spot where Duke and Wellington Streets intersect. Round this area, known by the name of Richmond Landing, the transfer point of immigrants and goods coming from Montreal, a few houses and outbuildings were soon erected, and such were the modest beginnings of the Canadian capital.

A project of great military importance which had been under consideration for a long time took shape simultaneously. During the war of 1812, the capture of Toronto and the march of an American army on Montreal, that threatened to

sever communications by the St. Lawrence River between Quebec and Montreal, revealed the necessity of finding an alternate route beyond all danger of occupation by the enemy. Following several technical reports and surveys on the subject, the General Staff decided in favour of a route which, making use of the Ottawa and Rideau rivers, would link, beyond all hostile attacks, the two Laurentian ports of Montreal and Kingston. In April, 1826, Lieutenant-Colonel John By, of the Royal Engineers, was appointed to direct the construction of a canal which, by making use of the course of the Rideau, would ensure uninterrupted navigation between Montreal and Kingston. In September, following a final examination of the land, the officer adopted the direction followed by the Rideau canal. The foundation of the Canadian capital may be dated from that month.

The work, started in June, 1827, with the corner stone being laid by the Governor-General, Lord Dalhousie, on September 29, was pressed forward so energetically by the Corps of engineers that it was possible to inaugurate the canal, May 29, 1832, with the passage of a steamer, the Pumper, bearing Colonel By and a party of specially invited guests. The cost of the undertaking amounted to about \$4,000,000.

During the five-year period its construction entailed, the work on the canal had attracted and detained many workmen and unskilled labourers who settled on the present site of Ottawa. Their presence, in turn, attracted craftsmen of every trade, merchants and shopkeepers, so much so that the locality, which took the name of Bytown, in honour of the builder of the canal, soon numbered a population of about 1,000 souls. In the absence of any war, the canal was never used for military purposes, but, on the other hand, it did open up to settlement a region of fertile land, facilitated the transportation of goods and agricultural products, and contributed in various ways to the development and progress of a whole vast area straddling two provinces.

At this time, the felling of trees and the floating of logs constituted the sole regional industry. In winter, the forests bordering on the rivers echoed to the mighty axe strokes of woodsmen operating in many scattered shanties. With the advent of spring, hundreds of thousands of logs, floated from the upper reaches of the Ottawa and the Gatineau, were assembled in the basin, at the head of the canal. At this point, raftsmen formed them into large rafts on which were erected several cabins that served to house the cooks and their assistants and the crews handling the rafts. This whole industry, log cutting and floating, required enormous quantities of provisions and goods for the loggers and raftsmen, whose stay in the locality increased tenfold, from year to year, the trade of the shopkeepers and artisans, and contributed to a steady growth of the population, so much so that in 1841, the latter amounted to more than 3,000 souls. To which was added, as early as 1852, the construction of several sawmills, which soon doubled the production and trade of Bytown and Hull, her neighbour.

From earliest times until the dawn of the last century, the bark canoe had served the purposes of exploration, the fur trade and military transportation. A craft that lent itself to quick locomotion, when dexterously handled, it was

also noted for its wonderful load capacity. With the advent of colonists there came the Durham boats, solid rowing-boats, slower travelling but more staunch and better suited to the transportation of heavy and cumbersome loads. Then, as early as 1821, steamboats made their appearance on the river. The first of these steam-propelled boats was called the Union. The fare, in round figures, from Bytown to Montreal cost \$5, and to Kingston \$6. Finally, in 1854, a first railroad, operating from Prescott to Bytown and connecting with the Montreal-Toronto line, marked the inauguration of a regular service, with the trains travelling at a speed of ten miles an hour.

With the expansion of the lumber industry and the increase in the agricultural population of the region, the village of the early days had grown from year to year, to the extent of becoming the county town of the district as early at 1842; it also boasted of having three weekly newspapers since 1836. Constituted a town municipality by a statute enacted in July 1847, afterwards disallowed by royal revocation, Bytown resumed her title of town in January 1850 and chose her first mayor, John Scott, a lawyer. Constantly growing in numbers, importance and prosperity, proud of a population of 10,000 souls, the ambitious little town soon sought and secured legal status as a city, in January 1855, with the right to exchange the too common name of Bytown for the more rare and harmonious appellation of Ottawa.

In the meantime, United Canada, which consisted of the Provinces of Ontario and Quebec, since 1841, had not yet finally settled on the location of her capital. Her parliament held its first sessions in Kingston, to the dissatisfaction of all the members. A member proposed that the sessions be held alternately in Quebec and Toronto, while the representative of the county of Carleton suggested that Ottawa be chosen. Finally, in November 1844, Montreal became the capital, but forfeited her title, as early as 1849, following a riot that culminated in the burning of the legislative building. Unable to make a definite selection, the Legislative Assembly decided to sit alternately every four years in Quebec and Toronto. This system of a movable capital, entailing the transportation of library, archives, furniture and staff proved to be difficult, complicated and quite costly. The question again arose of choosing, finally, a permanent capital. Six cities claimed that honour: Montreal, Quebec, Toronto, Kingston, Hamilton and Ottawa. The youngest and the least populated, the last named presented, on the other hand, at least at that time, an impressive array of advantages: remoteness from the frontier, security from all threat of occupation, facility of communications with all the large cities of the country, favourable location on the boundary line of two provinces, half-way between all points, the centre of a promising region, and remarkable beauty of the site and surroundings. Lastly, the clinching argument after the question of strategical situation, nothing short of her selection could make an end of the intense rivalry between the two principal aspirants, Montreal and Toronto. Confronted with these reasons, Queen Victoria advised the government, December 31, 1857, that she was choosing Ottawa as the capital of United Canada, a selection the Legislative Assembly barely confirmed by a vote of 64 to 59.

Without loss of time, construction of the Parliament and government buildings was started immediately after acceptance of the plans of architects Fuller and Jones providing for structures of Gothic style. Chosen as a site for the halls of the nation was the eminently favourable headland flaunting its escarpment above the broad bend of the Ottawa River between Nepean Point and Victoria Island. The spot affords a magnificent view of the scenery, harmonious and picturesque, interspersed with cultivated plateaux and wooded hills, with, as a background, the summits of the Laurentians undulating softly, mauve-tinted in the evening, against the blue sky of the distant horizons. On September 1, 1860, the Prince of Wales, later King Edward VII, laid the corner stone of the main tower, but it was not until June 8, 1866, that the first legislative session, held in Ottawa, opened in the stately Parliament building, a happy blending of Gothic style enhanced by sculptures and native stone of beige and greyish tint. On that day, to the great pride of her 20,000 citizens, Ottawa witnessed the fulfilment of her dream, for long apparently chimerical, of becoming the capital of the country.

Soon, there was to occur a great event that had been in the making for years. This occurrence would once again enhance the eminence of Ottawa and suddenly exalt her political and national role. Following several conferences, the four provinces of Quebec, Ontario, Nova Scotia and New Brunswick formed, July 1st, 1867, a confederation that took the name of Dominion of Canada. Ottawa now became the capital of a very vast country which soon trebled its dimensions by the acquisition of the North-West Territories and by the annexation of two new provinces, British Columbia in 1871 and Prince Edward Island in 1873, with the result that the young capital now governed a country stretching from the Atlantic to the Pacific, and from the Arctic to the United States boundary.

Risen to the rank of autonomous colony, endowed with enormous resources—ranging from the fisheries and the coalfields of Nova Scotia, the forests of New Brunswick, Quebec and Ontario, the fur-bearing animals of the North-West Territories to the wheat-fields of Manitoba, the woods and the mines of British Columbia—Canada still grouped but a small population of 3,000,000 inhabitants, scattered in seven provinces, but united by a common allegiance and the steel bonds of her railways extending from Halifax to Vancouver. However, there soon developed, slowly yet surely, a substantial agricultural advancement and a solid industrial expansion, under the aegis of Sir John A. Macdonald's national policy, expansion and advancement which increased the Canadian population to 5,000,000, while the Capital was to witness a rise in the number of her citizens from 43,000 souls in 1891 to 60,000 in 1901.

All of a sudden, a new mastery asserted itself in the government of the country. An intense propaganda set in motion such an annual influx of immigrants that in 1911 the population rose by successive leaps and bounds to 7,000,000 souls, an increase of 2,000,000 in ten years, while Ottawa, keeping pace with the growth of the country, was extending her boundaries and swelling the number of her inhabitants to 90,000, a remarkable figure for a city in existence but 60 years. While a growing political autonomy was becoming more marked, an Imperial

preference policy was increasing commercial exchanges to unprecedentedly high levels, so much so, that Laurier, the moving spirit of this progress on the two fronts could rightly exclaim: "The twentieth century will be Canada's century".

At this very hour, the first world war was touched off. To the appeal of nations to right and freedom, Canada answered magnificently: volunteers for the most part, 620,000 men took up arms and four divisions fought gloriously on the European front, notably at Ypres, Courcelette, Festubert and Vimy. Therefore, in the face of such splendid collaboration, neither Great Britain nor the United States could deny to Canada's representative, Sir Robert Borden, the right and the honour to affix his signature to the Treaty of Versailles. By one stroke of the pen, the country attained national independence and acquired the stature of an international power, accessions confirmed by the Imperial Conference of 1926 and embodied in the Statute of Westminster. From then on, Canada signed her own treaties and appointed her own ambassadors, while accrediting to her country diplomatic representatives from abroad. From a political capital, Ottawa rose to the rank of an international capital.

The war, however, had dealt her a hard blow: in February, 1916, a fire set by a German hand destroyed her first Parliament. Soon rebuilt according to a broader plan of architect John Pearson, the magnificent monument, which retained the Gothic style, dominates, since 1920, with its lofty Peace Tower, the whole city and surrounding landscape. In those wars, with the creation of new departments and the multiplication of administrative services, the population showed a rising curve to which the construction of new commercial buildings and apartment houses also contributed, so much so, that it reached the figure of 120,000 souls in 1930.

During the trying years of the economic crisis, first felt in 1929, political Ottawa, like the remainder of the country, fought gallantly, and lent a helping hand wherever distress was experienced. The capital was directing a sound economic recovery on all fronts when she extended a triumphal welcome, in May, 1939, to His Majesty George VI and his gracious Queen Elizabeth. In the course of this visit, a unique occurrence in recorded history, the sovereign of the British Empire presided over a sitting of the Canadian House of Commons.

Three months later, there broke out the second world war, a still more terrible conflict because it was more systematically barbarous. Once again, in defence of justice and civilization, the country girded its armour: this time, one million Canadian men and women joined the armed forces and soldiers from the land of the Maple Leaf outdid themselves in deeds of valour on the battle-fronts of Italy, France and Holland. At the same time, Ottawa assumed all controls, raised stupendous amounts of public monies, improvised a huge industry, exported overseas immense quantities of arms and munitions, wheat and provisions. In due proportion to its population, no country made such a gigantic military, economic and financial contribution, a contribution that had its counterpart after the war in the form of extraordinary help to impoverished or devastated European nations.

Today, once again, the war has enhanced Canada's fame as never before and revealed this country, which is not yet fully aware of her potentialities, as a real international power of the first magnitude.

On the other hand, by centralizing around its departments manifold organizations and boards, the war had rapidly augmented the population of Ottawa which now reached a total of 165,000 souls. At the same time, the Capital revealed herself a tourist centre of rare attraction. A quite natural result, moreover, for beside her political importance are to be found the interest of her public monuments, the charm of her site and the attractiveness of her surroundings. Residence of the governor general, a university and episcopal city, she can offer convention members hotels with every modern comfort, to specialists the Parliamentary Library, the National Archives and the scientific museums; to the ordinary tourists, the Royal Canadian Mint, historical museums, the Archives and the National Gallery. For hikers, here are Rockcliffe, the Driveway and the gardens of the Experimental Farm. On leaving the city, the visitor finds himself, within a few minutes, in the Gatineau National Park, at the gateway to a hunting and fishing paradise, the great wild beauty of which is spangled with blue lakes and green rivers. No region in the world presents to the eyes a spectacle comparable with the dazzling enchantment of the Gatineau forest in the autumn of the year with its marvelous tapestry of gold, crimson and glowing purple.

A political capital, Ottawa has for long shown concern to improve herself by town planning and prove worthy of her role and her future. The initiative for her beautification is due to Sir Wilfrid Laurier who, as early as 1896, asked that she become "the Washington of the North". From this idea stemmed, in 1899, the first improvement commission which became subsequently the Federal District Commission. This organization carried out a number of landscaping and improvement projects. In 1938, Mr. Jacques Greber, the internationally renowned French town planner, conceived, as an excellent beginning, the plans for Confederation Square and the Elgin Street boulevard. Then, in 1945, the government asked him to draw up a comprehensive plan embracing the whole city and taking in the whole region, from the Laurentians to the Rideau Lakes and from Perth to Montebello. In the course of several years of study, the project has taken shape and broadened in scope, and will soon enter the stage of practical application. It contemplates adding to the splendor of the natural surroundings, and to the distinction of her public buildings, the advantages of an airy city, freed from traffic congestion, ridded of the obstruction of railway tracks, crossed by wide avenues and circling autostrads, providing space for new imposing structures to house departments, museums, theatres and convention halls, not omitting turfed, tree-shaded parks. A new Ottawa should emerge from this plan which envisions a co-ordinated group of communities harmoniously developing in a setting of beauty. In the course of the years, from this town planning, loftily conceived and far-seeing, allying the aesthetic and the practical, might emerge in this city of Ottawa, a capital distinguishable by the union of art and nature, the compass of her

surroundings, the style of her monuments, the attractiveness of her avenues, the charm of her parks, and the perfect appointment of her modern services, so much so that this capital would proudly rise to the level and greatness of the national and international role which this new world power, named Canada, a country of the future, is called upon to play in not too distant morrows.

GUSTAVE LANCTÔT.

### *Urban Evolution of the Capital Area*

Ottawa owes *its birth* to its favourable location at the confluent of three large rivers which were the natural conveyors to distant market of lumber awaiting the axe of the lumberman in the nearby forests.

#### *Plate 10*

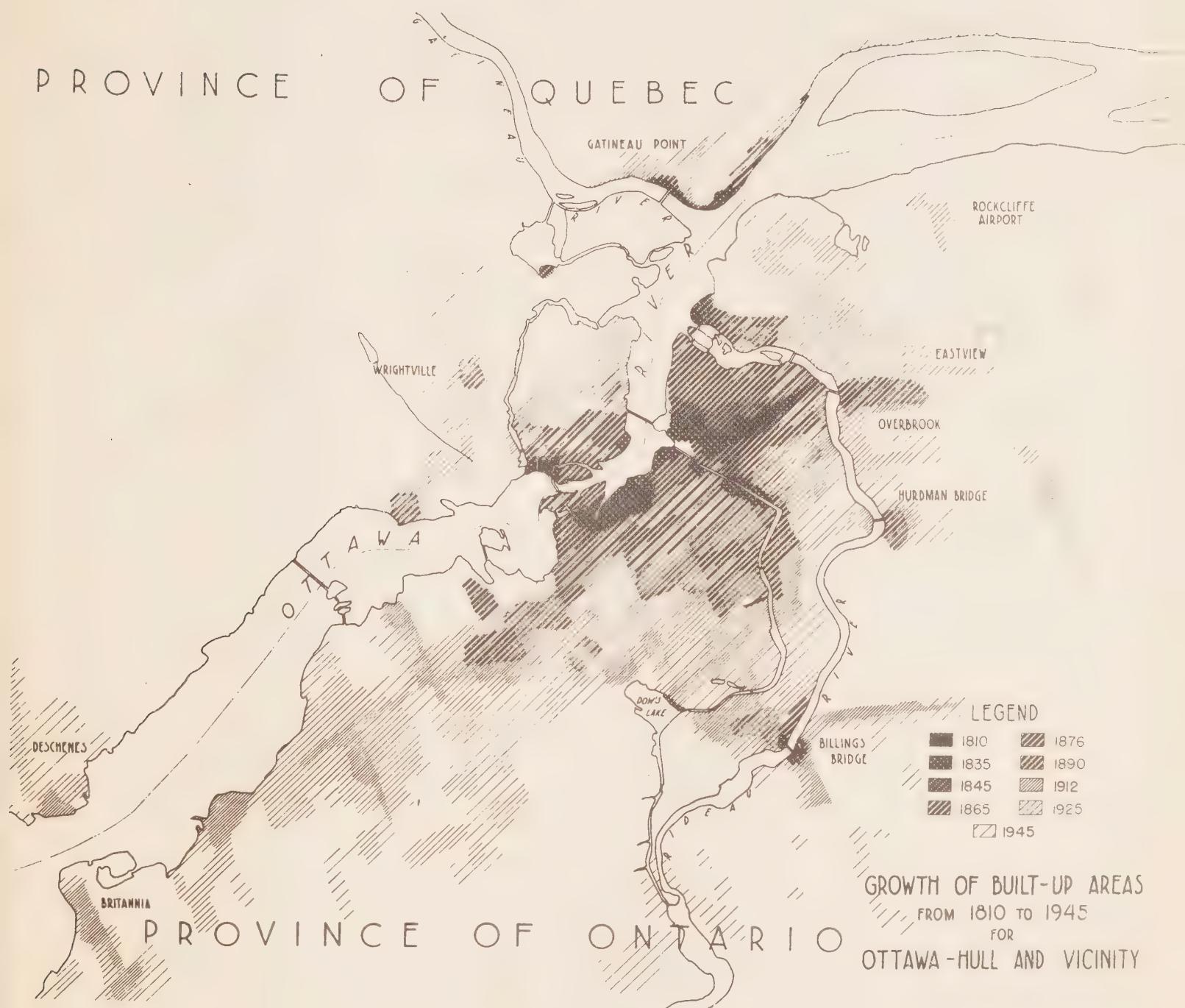
*Its growth* is due largely to the construction of the Rideau Canal and to the choice of Ottawa as the nation's Capital. As in the case of all new settlements, subsequent railway installations provided the incentive for rapid development.

In the evolution of the city, the relative importance of these functions have been reversed. The present prosperity and activity of Ottawa is attributable chiefly to its status as the National Capital, in the life of which industry now forms a comparatively small part. The expansion of the city, and of the surrounding districts has developed within the frame of the rivers and along the roads on a course largely dictated by its activities.

Born of the search for transportation and water power, the original settlement was established along the Chaudière Falls on the Hull side. With the building of the canal and locks by Colonel By, settlements developed on each side of the locks and on Barracks Hill. Later, when Barracks Hill was chosen as the site for Government Buildings, these settlements became the core of urban expansion. The introduction and expansion of railway lines within the growing community, while an influence in its development, have become the major detriments to its rational and harmonious growth. Their encirclement of more and more of the city, and their ruthless cutting through of its growing surface, in large measure, nullified benefits and advantages brought by the railroads and their satellite industries, and found a counterbalance in resulting disadvantages to the welfare and comfort of the citizens. That which has been in the past the incentive to recurring phases of activities and expansion, and in turn has proved to be a detriment to its best interests, may yet become potent factors in the reorganization of the Capital on a new basis.

*The characters* of the central areas have been determined by the activities of the early settlement, and, other than by growth, have been subject to little change. The residential districts immediately surrounding the business areas show evidence of the detriments attached to such growth. The Chaudiere Falls area has continued to develop as an industrial area, expanding year after year, and encroaching with

# URBAN EVOLUTION OF THE CAPITAL REGION



GROWTH OF THE BUILT-UP AREA

ILLUSTRATION 6



its plants, warehouses and railway sidings on both sides of the river on residential quarters. The downtown area has continued to expand commercially and semi-industrially, constantly encroaching on and creating crowded residential areas. Rideau Street, Dalhousie Street, Sparks Street and Bank Street have also shown continuous commercial growths which have penetrated adjacent streets and deteriorated former residential sections. Commercial, semi-commercial, industrial and semi-industrial areas have thus, from the very beginning, been allowed to expand to the detriment of the surrounding residential districts. Furthermore, these districts have followed a constant evolution under the pressure of added demands for services. The north end of Bronson which was once the choice residential area, has had its properties converted into small apartments or replaced by flats; Metcalfe Street, where once heavy traffic was prohibited, has seen a similar change. Sandy Hill sees the encroachment of nearby commerce, despite the desire of its citizens to remain near the central area. Residential areas have continuously regressed from the commercially active sections of the city. Statistics fail to show any diminution in the numbers of dwellers, but show clearly that outside districts were growing fast.

If the city continues its expansion in this way, there is little doubt that those residential areas will continue to deteriorate. Such conditions are frequent in large cities, and particularly when of a commercial or industrial character.

The search for space, the constant pressure from activities which are by their natures detrimental to residential developments, together with the improvement of roads and public transportation, have fostered the expansion of suburban areas, conditions which, if rationally met, would show little increase in population of the older areas. As distances increased, these centres of attraction have had a tendency to spread rather than to form outside nuclei. Consequently, ribbon-like expansions along the main lines of communications have given those arteries the cumulative functions of through circulation and commercial service streets. Those characteristics are more common in the western sections of Ottawa, and of Hull, while easterly developments show a tendency toward more compact growth.

To safeguard, and in some measure provide for, their normal developments, some residential areas have tried to protect themselves in two ways: some, like Ottawa South, by developing within its environs a spirit of neighbourliness and by adopting protective measures, or others, like Rockcliffe, by legislative exclusion and control.

The city's expansion is now hampered by the lack of proper communications. With the tendency of developing along the western arteries, distances have become prohibitive, and those arteries have failed to meet the dual functions of local shopping streets and of traffic arteries. Consequently, recent developments, with the view of being integrated within the central area, have utilized grounds formerly rejected because of their proximity to undesirable neighbourhoods (Mann Avenue Housing Project), or have located within areas of high density in the core of the urban development, or have found new grounds, well located but badly linked with the centre (Manor Park Housing Project or Wrightville).

In town and city growth, communication facilities are seldom envisaged before developments take place, hence, ribbon-like developments grow up along traffic arteries. One of the marked advantages of a master plan lies in its prior designation of the location of the different areas of activity, in relation to which the determination of the road system can be predicated.

*Subdivision of the land*—The immense space, and the difficulties of access to the land, together with the limited means for survey, have determined, to a large extent, the artificial limits of counties and townships, and the subsequent arbitrary gridiron subdivisions, even when there was a dictating factor such as a river, or an escarpment. The system was expeditious and quite practical for the distribution of lands which could not be properly surveyed.

Those methods ignored entirely the topography of the land, and boundaries passed through lakes, rivers, gullies and mountains without consideration of natural features, which, in older countries, formed *the basis of land subdivision*.

The development of Ottawa and its surrounding municipalities is characterized by this basic approach to subdivision. Some of its principal thoroughfares were originally concession roads.

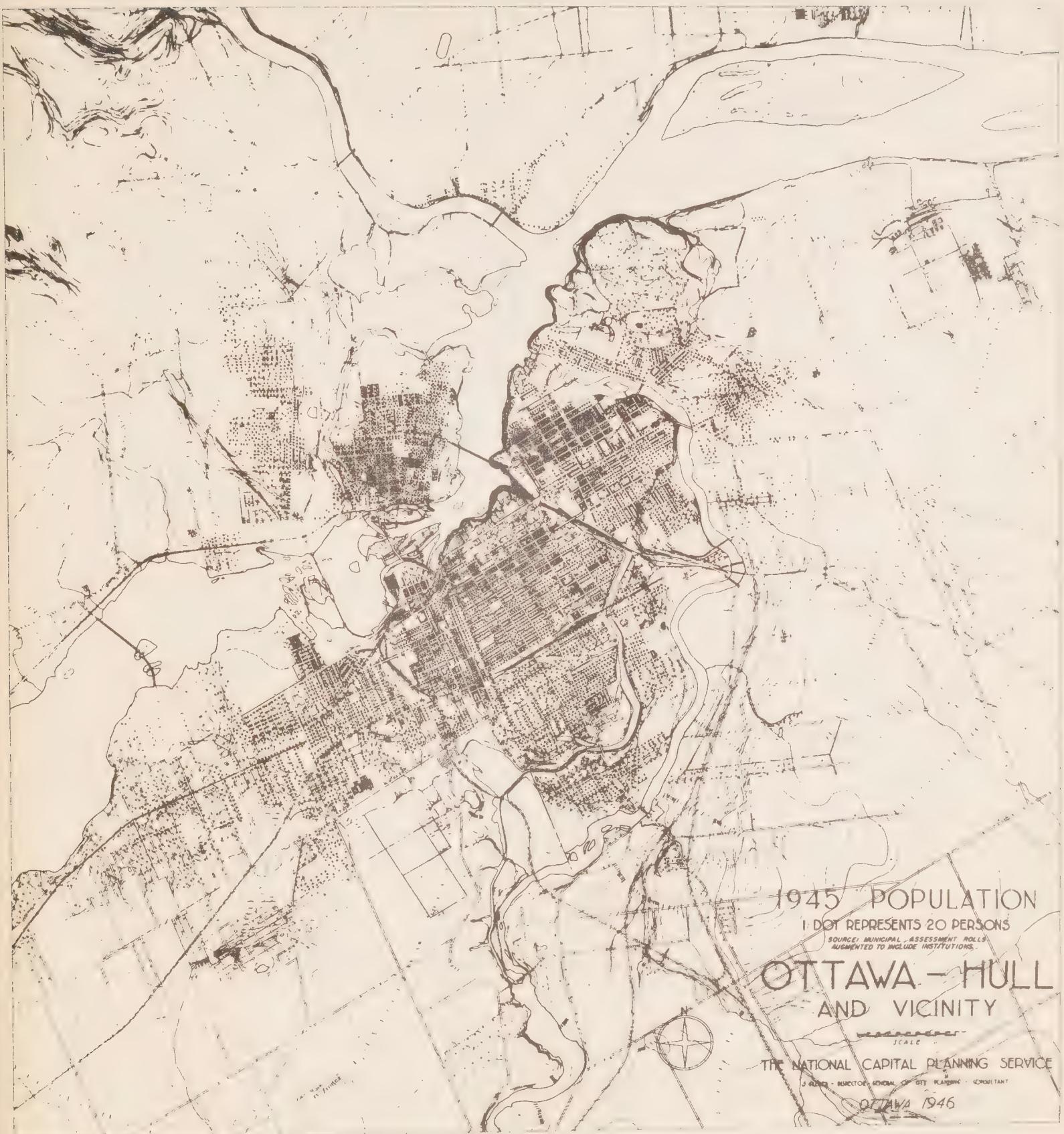
The locations of *public buildings*, particularly Government administrations, were factors which had direct bearing on the distribution of population. Their personnels gradually became domiciled in groups contiguous to these buildings. Such conditions are verified in plan number 18. This plan shows clearly the intensity of such groupings in relation to these institutions.

**Plate 18**  
**Plate 9**  
— 10

The diagrammatic comparisons of the plans of city development from 1810 to 1945, and the plan of their superimpositions, show these tentacular expansions, particularly in a westerly direction, during the first quarter of the twentieth century, with a sporadic tendency toward the east and south hampered by railroad interferences, but clearly defined during later years.

Our studies for the delimitation of further extensions, and of the characters of their future lay-outs, take cognizance of such tendencies, with a view to correcting the defects of theoretical gridiron land division, suitable perhaps for the development of farmlands, but detrimental to proper community planning.

# GROWTH OF THE BUILT-UP AREA



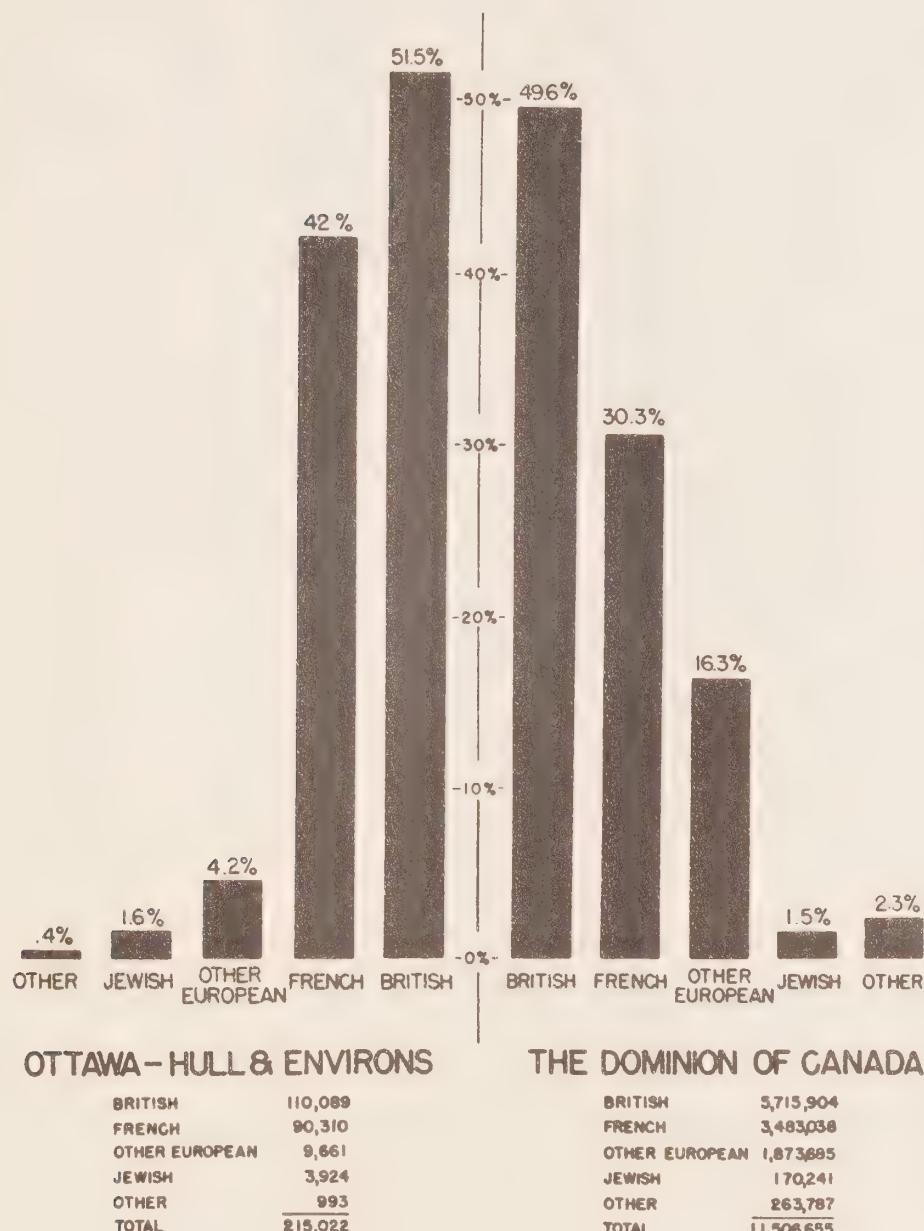
POPULATION DENSITY

ILLUSTRATION 7



# DEMOGRAPHY

## COMPARATIVE POPULATION BY RACIAL ORIGIN CENSUS-1941

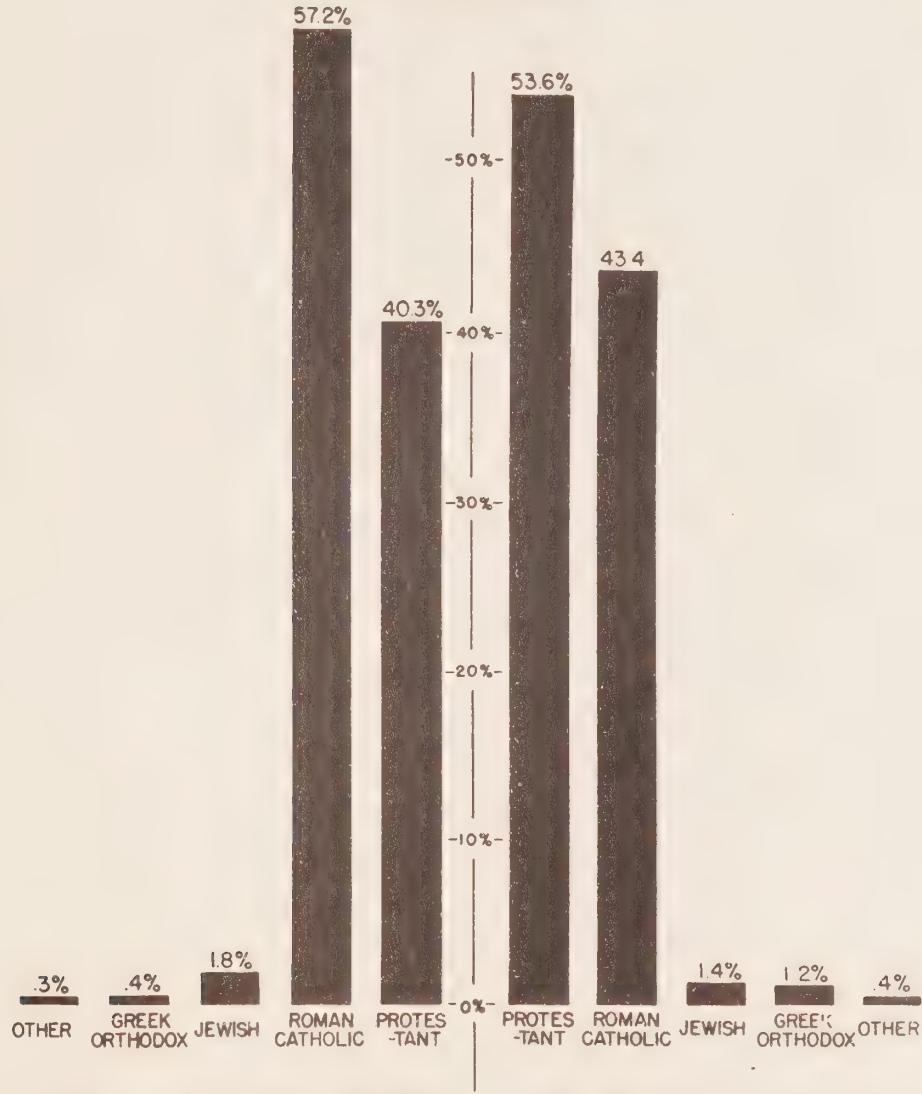


## COMPARATIVE POPULATION BY RACIAL ORIGIN



# DEMOGRAPHY

## COMPARATIVE POPULATION BY RELIGIONS CENSUS-1941



### OTTAWA-HULL & ENVIRONS

PROTESTANT	86,370
ROMAN CATHOLIC	123,101
JEWISH	3,901
GREEK ORTHODOX	919
OTHER	731
<b>TOTAL</b>	<b>215,022</b>

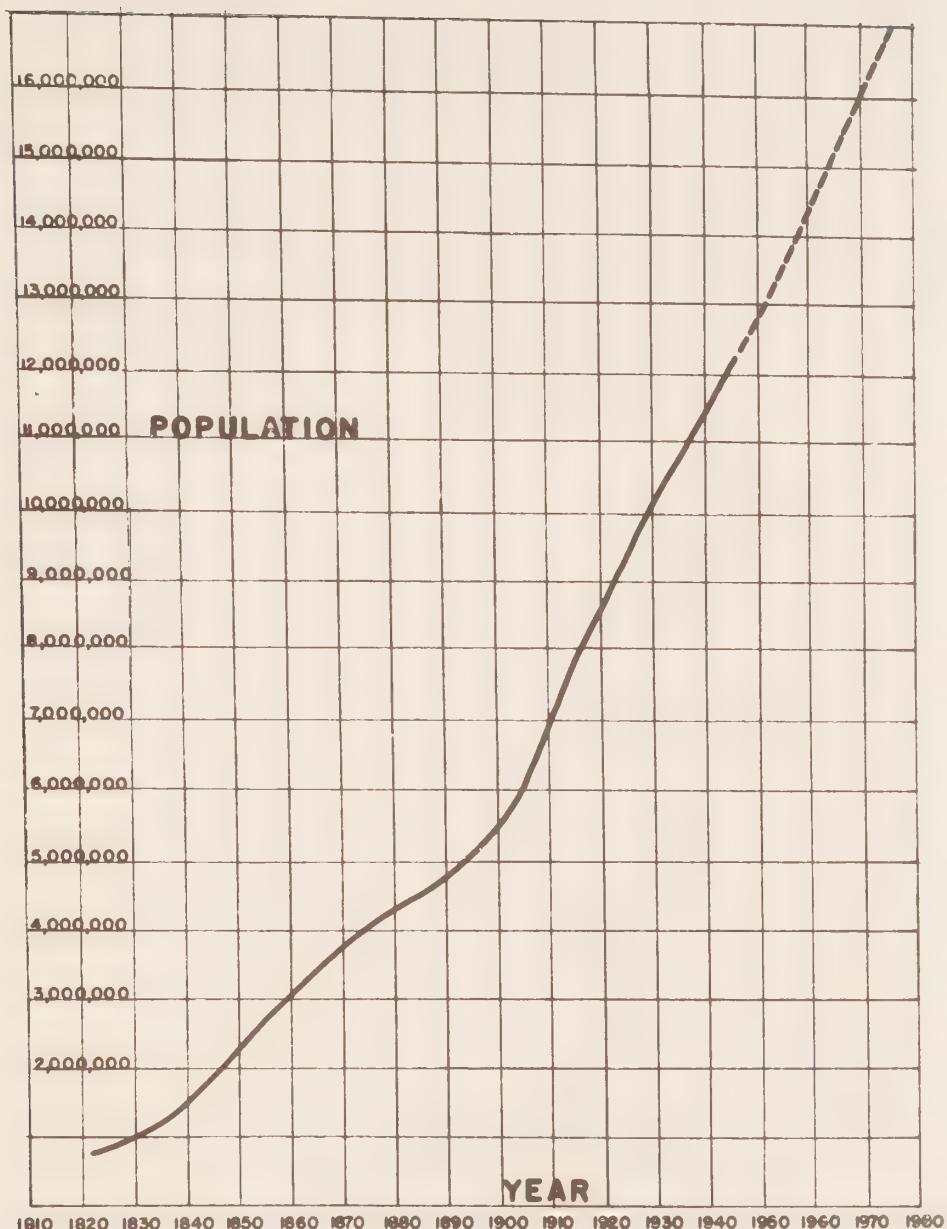
### THE DOMINION OF CANADA

PROTESTANT	6,157,080
ROMAN CATHOLIC	4,966,552
JEWISH	168,369
GREEK ORTHODOX	139,629
OTHER	55,027
<b>TOTAL</b>	<b>11,506,655</b>

## COMPARATIVE POPULATION BY RELIGIONS



# DEMOGRAPHY

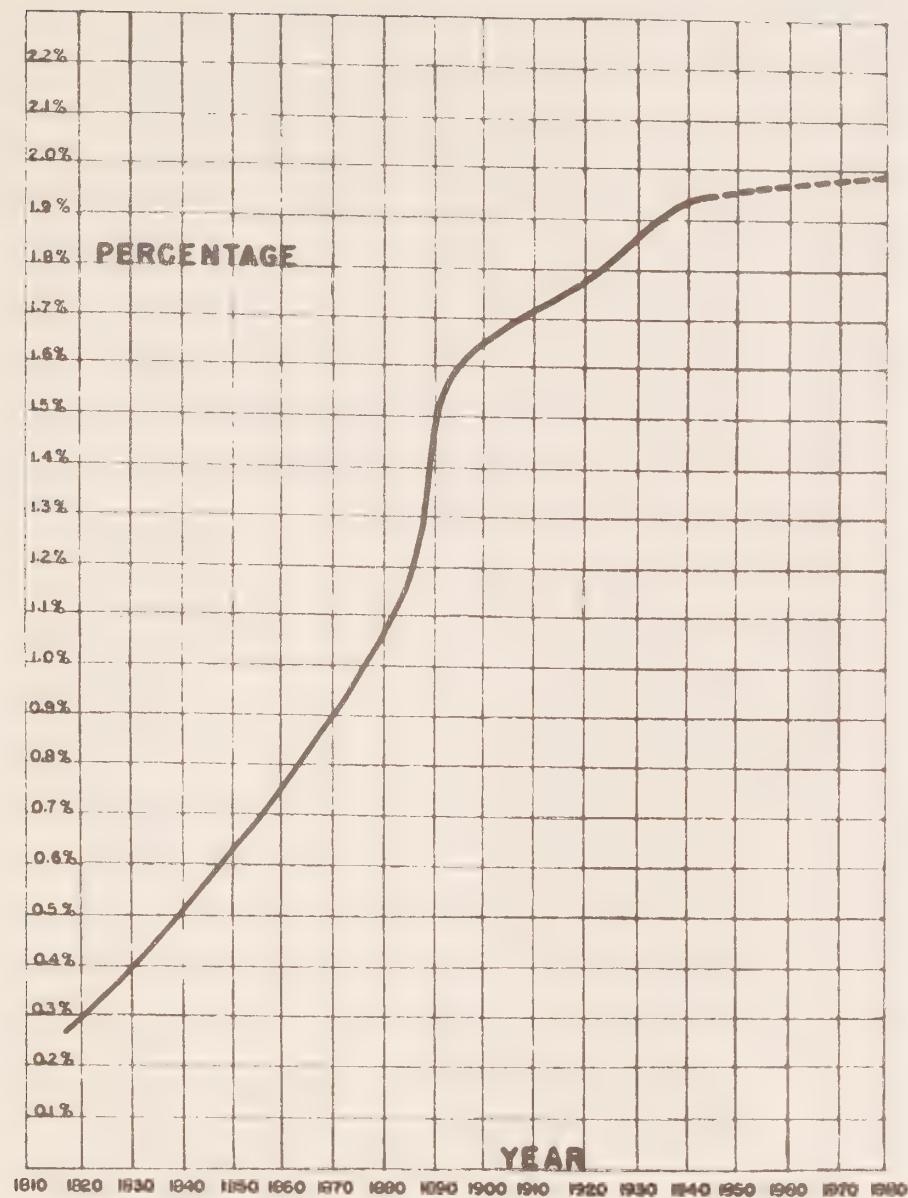


POPULATION  
ACTUAL AND ANTICIPATED GROWTH FROM 1810  
FOR  
THE DOMINION OF CANADA

POPULATION, ACTUAL AND ANTICIPATED FOR CANADA



# DEMOGRAPHY



**POPULATION**  
ACTUAL AND ANTICIPATED RELATIONSHIP BETWEEN  
**OTTAWA-HULL AND VICINITY**  
AND  
**THE DOMINION OF CANADA**

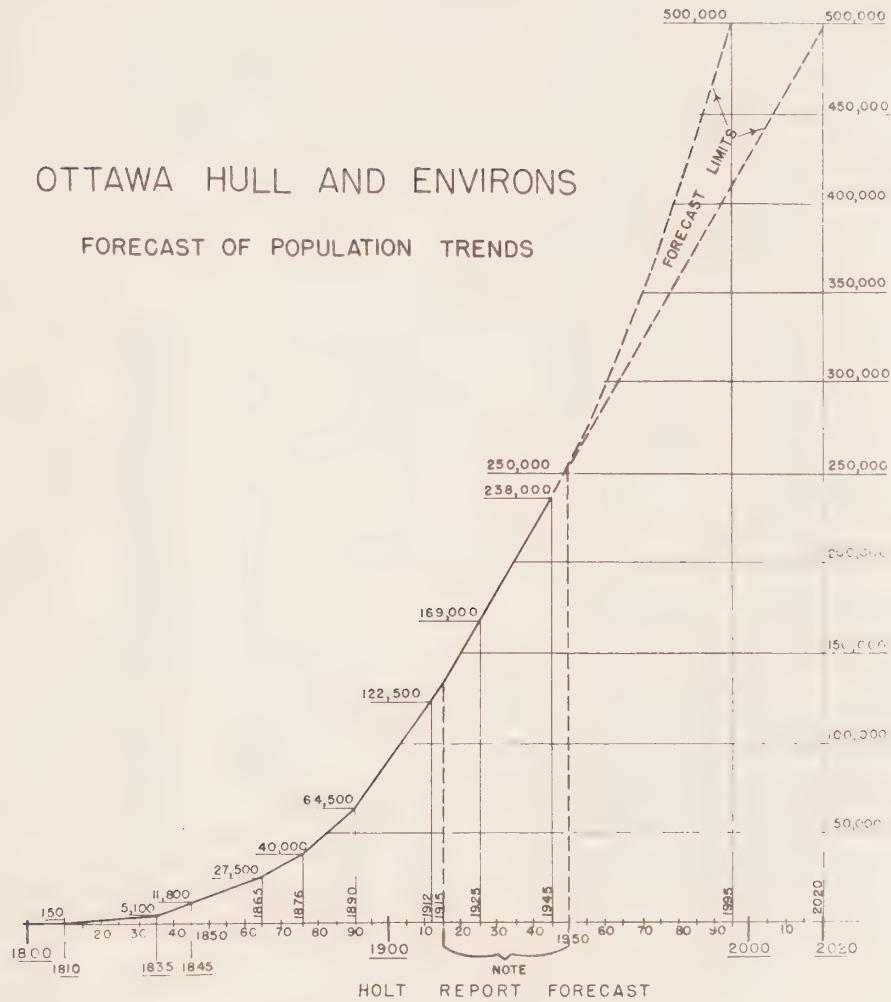
POPULATION OTTAWA, HULL AND VICINITY RELATED TO  
POPULATION OF CANADA



# DEMOGRAPHY

## OTTAWA HULL AND ENVIRONS

### FORECAST OF POPULATION TRENDS



POPULATION GROWTH, OTTAWA, HULL AND ENVIRONS

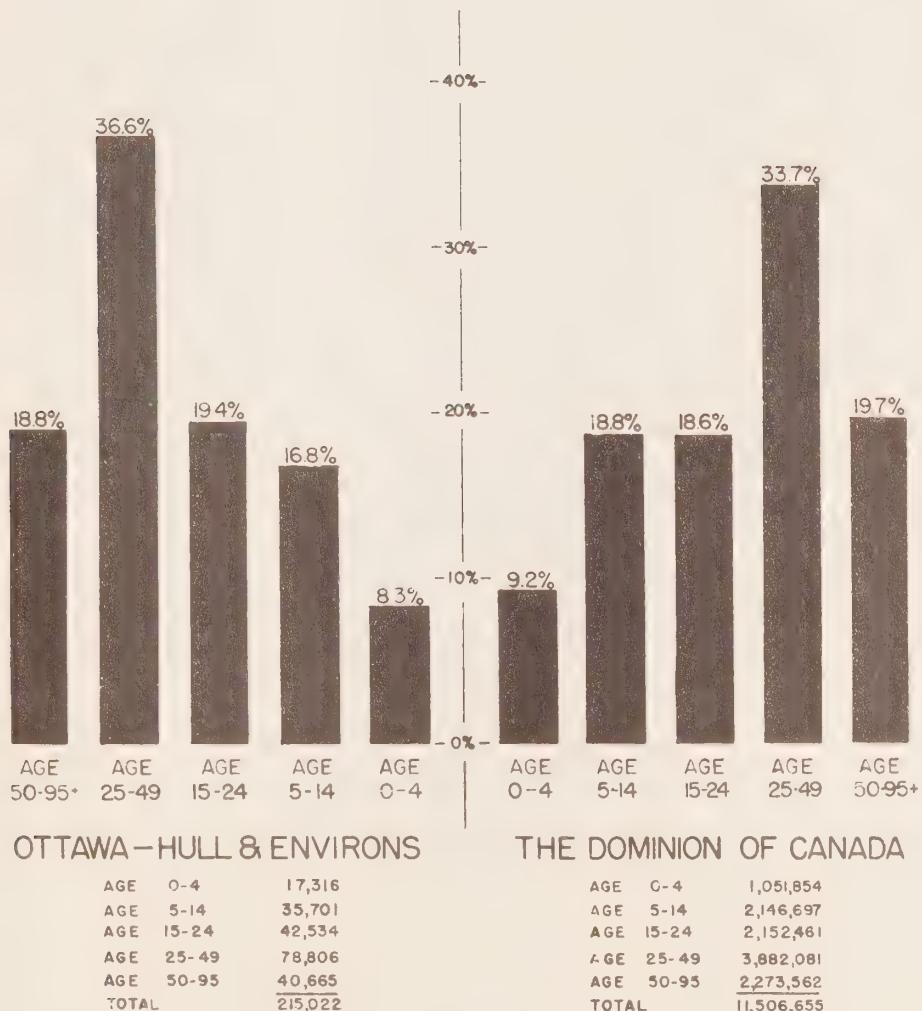
ILLUSTRATION 12



# DEMOGRAPHY

## COMPARATIVE POPULATION BY AGE GROUPS

CENSUS-1941

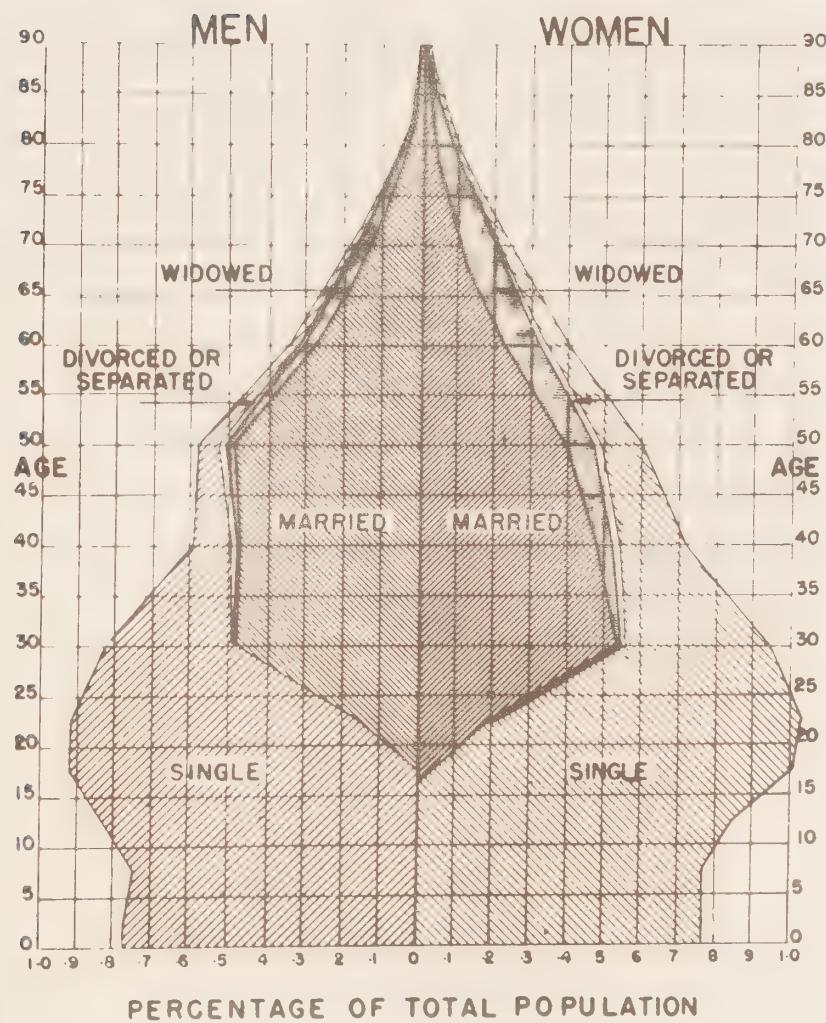


## POPULATION BY AGE GROUPS



# DEMOGRAPHY

## AGE AND MARITAL STATUS CENSUS 1941



## OTTAWA AND HULL

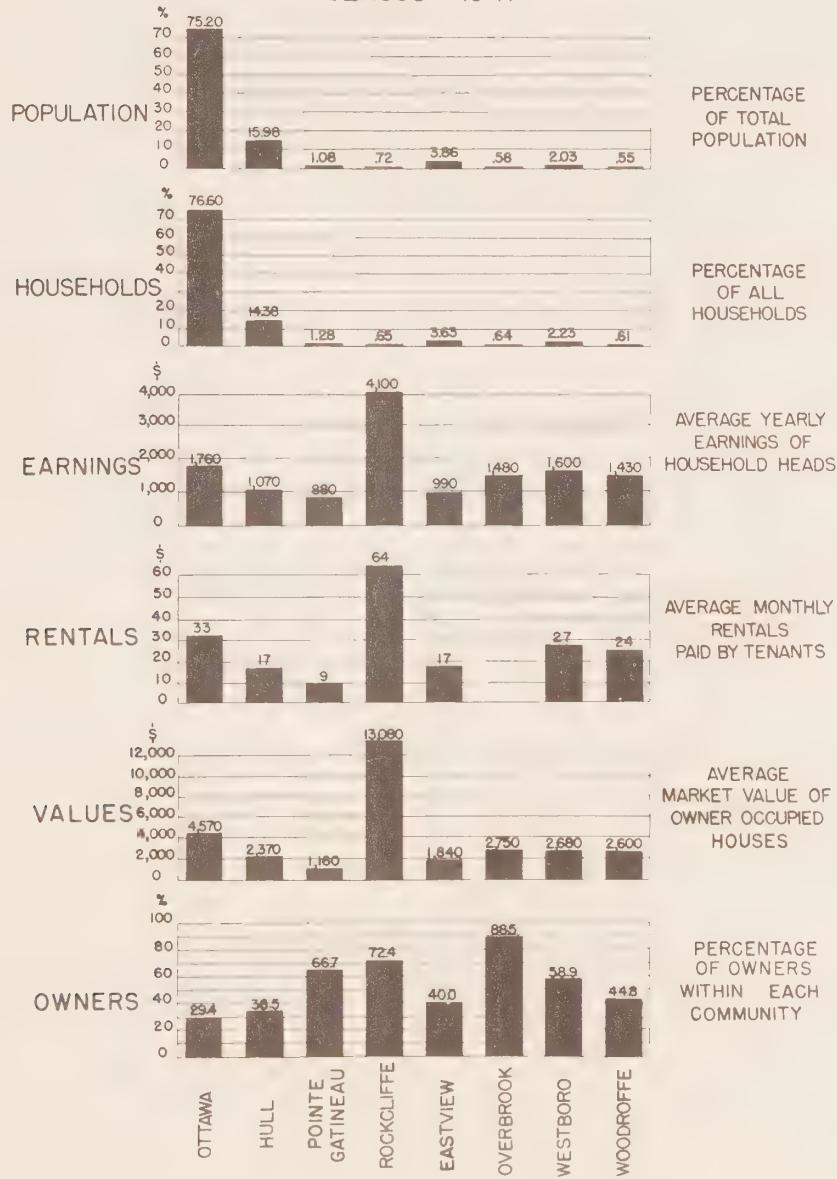
### AGE AND MARITAL STATUS



# DEMOGRAPHY

## COMPARISON OF OTTAWA TO HULL AND THEIR SATELLITE COMMUNITIES

CENSUS 1941

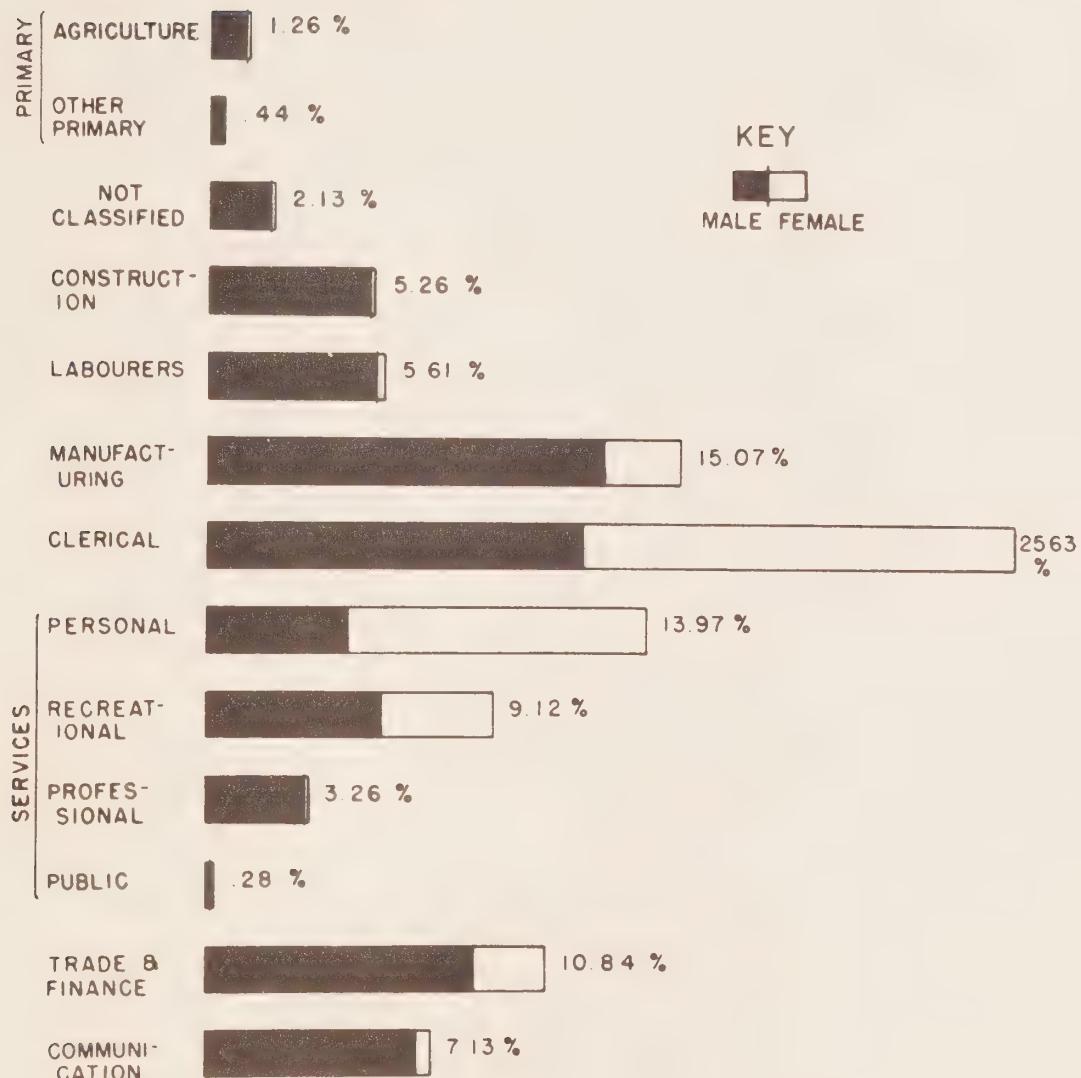


COMPARISON OTTAWA AND SATELLITES



# ACTIVITIES

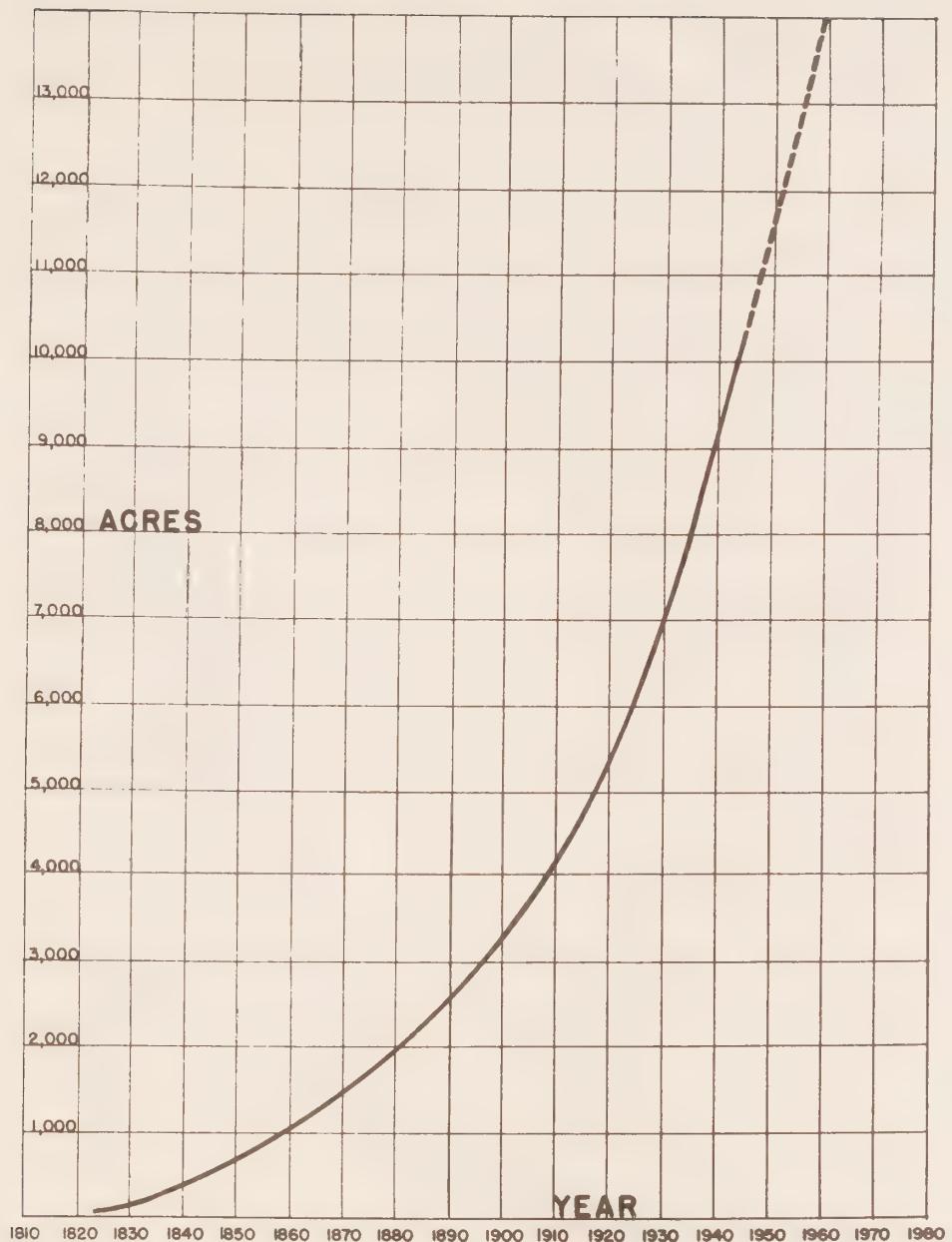
## OCCUPATION OF WAGE-EARNERS CENSUS 1941



OTTAWA - HULL AND VICINITY

OCCUPATION OF WAGE-EARNERS





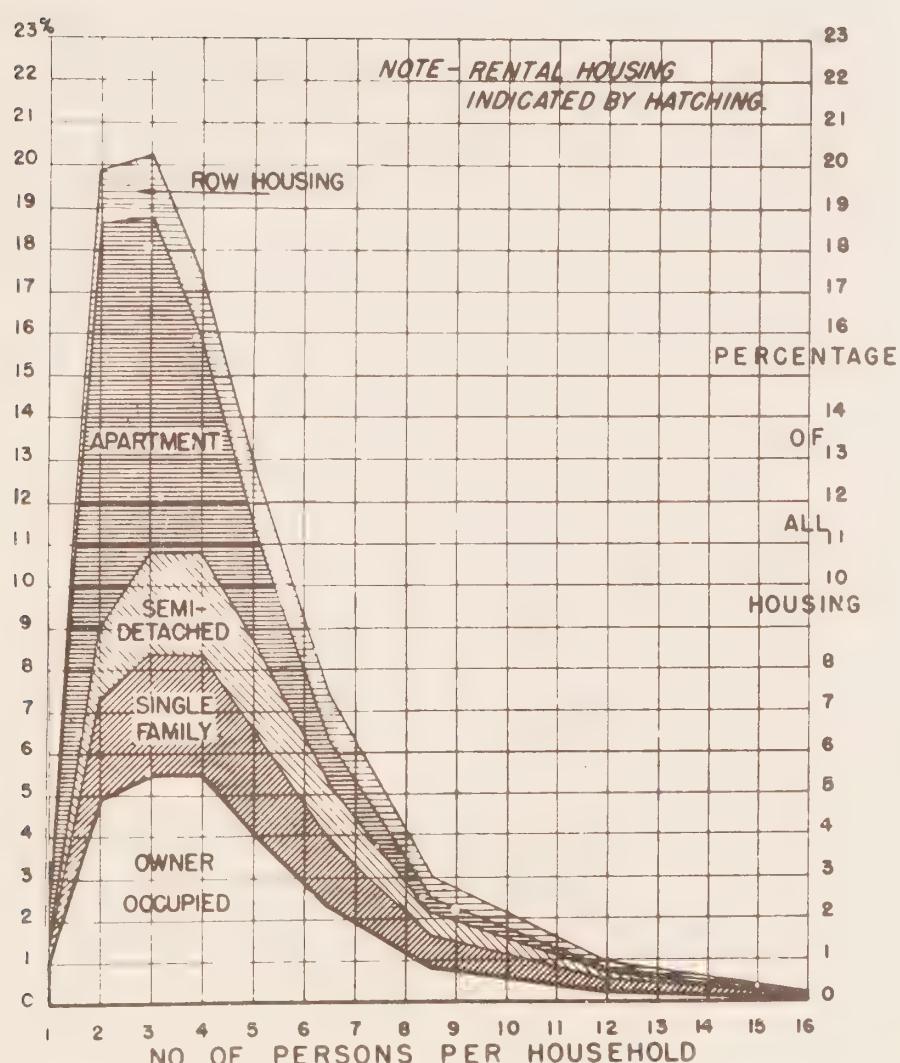
**BUILT-UP AREAS**  
ACTUAL AND ANTICIPATED GROWTH IN ACRES FROM 1810  
FOR  
OTTAWA - HULL AND VICINITY

BUILT-UP AREAS, ACTUAL AND ANTICIPATED



# HOUSING

## PERSONS PER HOUSEHOLD BY TYPE OF HOUSING CENSUS 1941



## OTTAWA AND HULL

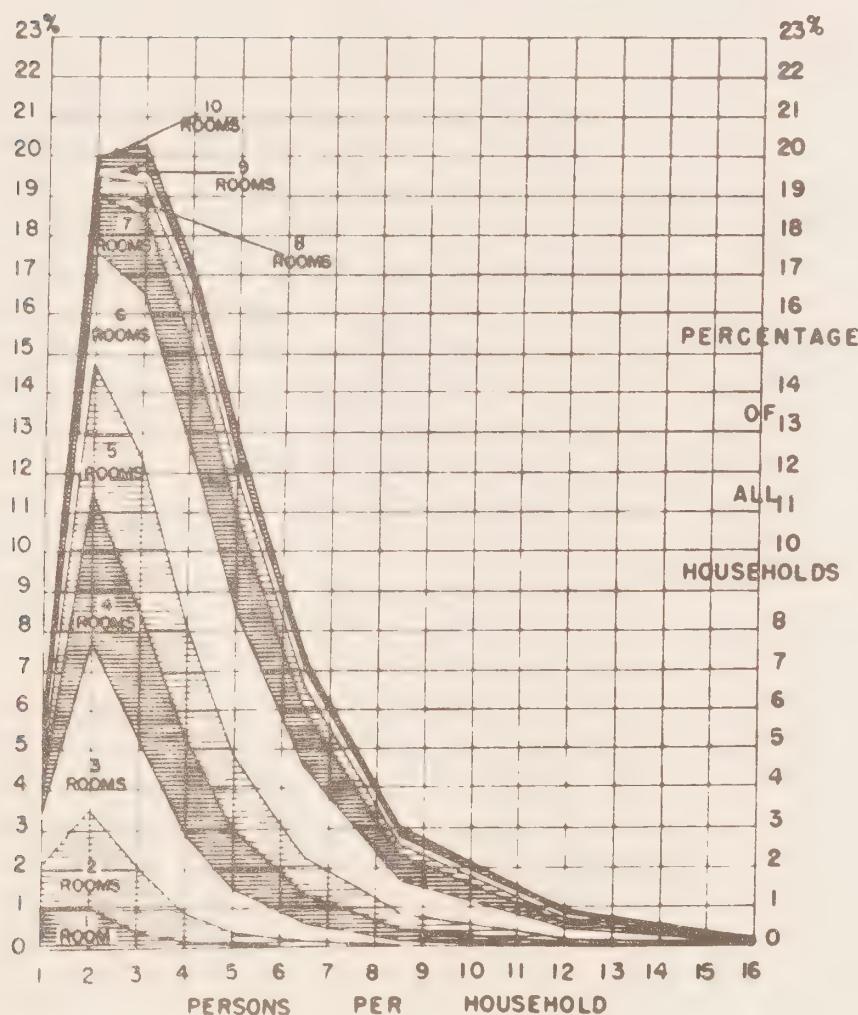
### PERSONS PER HOUSEHOLD



# HOUSING

## HOUSEHOLDS BY ROOMS AND OCCUPANTS

CENSUS 1941



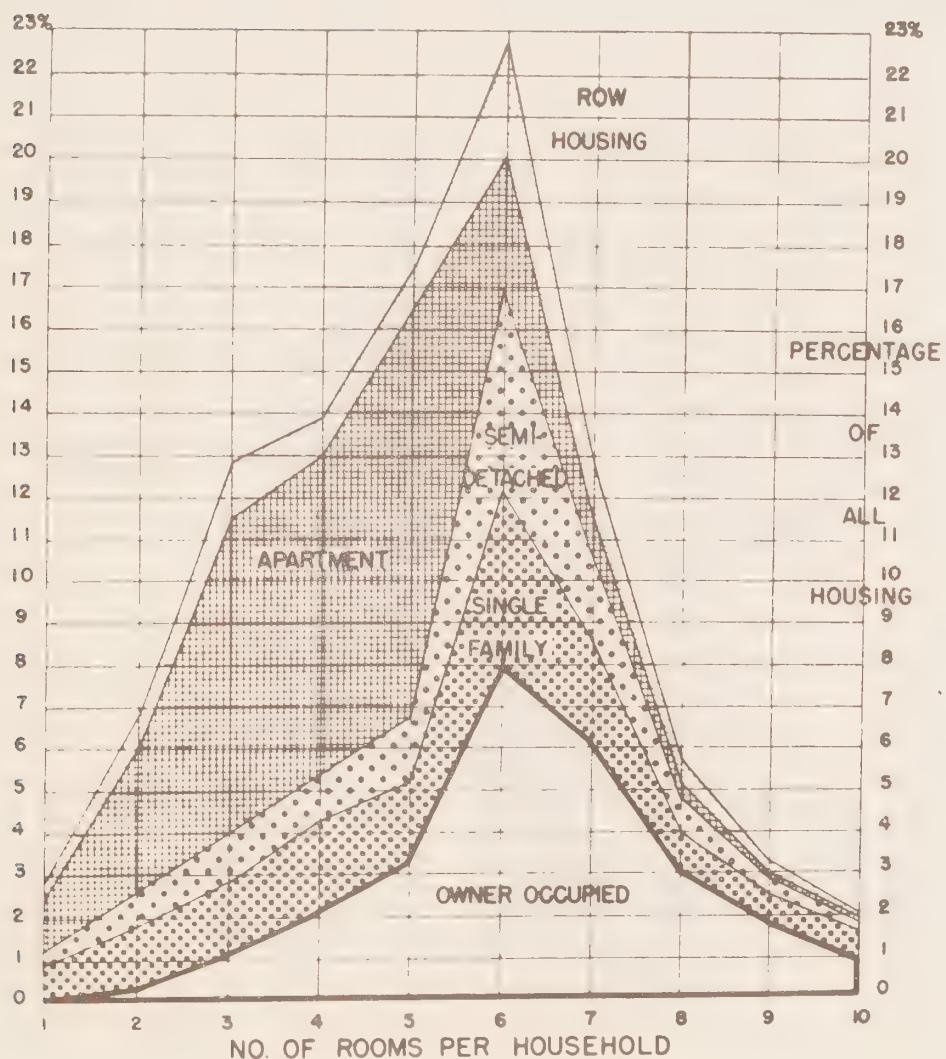
## OTTAWA AND HULL

### HOUSEHOLDS BY ROOMS AND OCCUPANTS



# HOUSING

## ROOMS PER HOUSEHOLD BY TYPE OF HOUSING CENSUS 1941



OTTAWA AND HULL

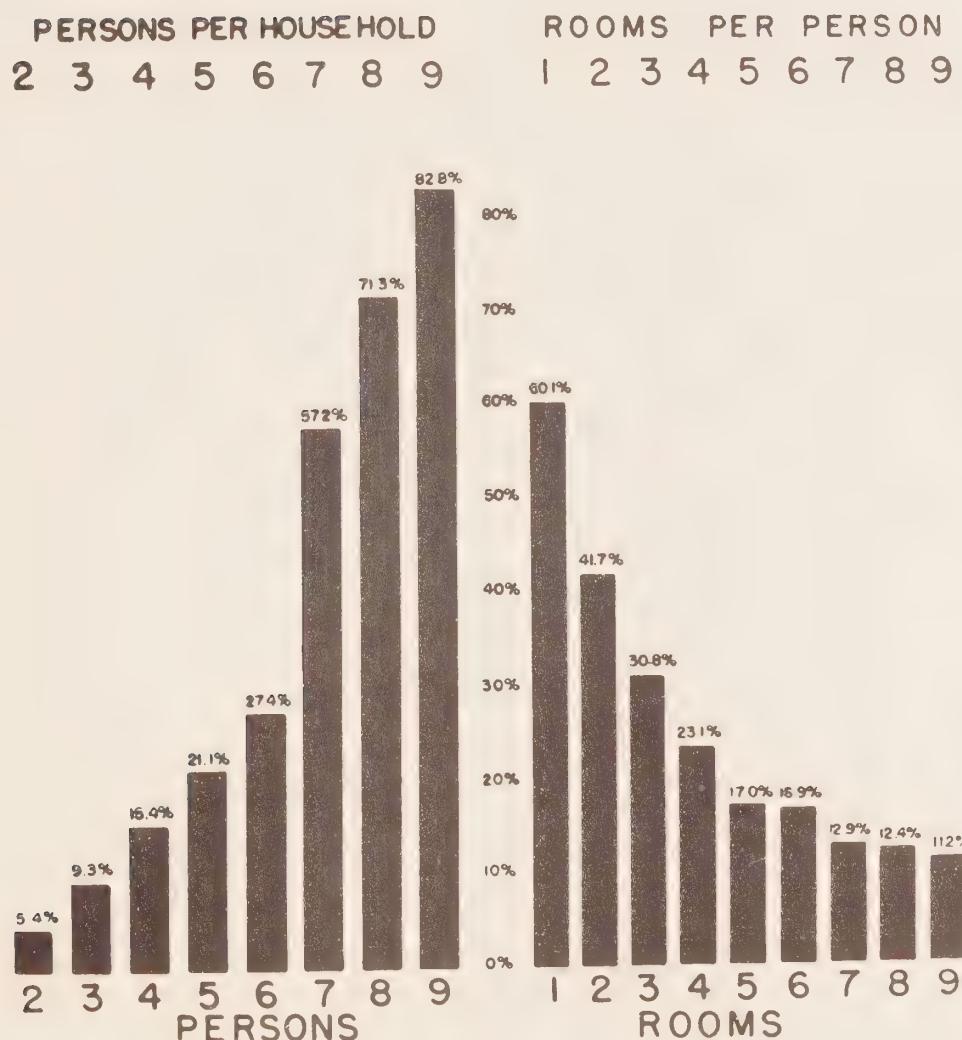
ROOMS PER HOUSEHOLD



# HOUSING

## HOUSEHOLDS WITH LESS THAN ONE ROOM PER PERSON

CENSUS 1941



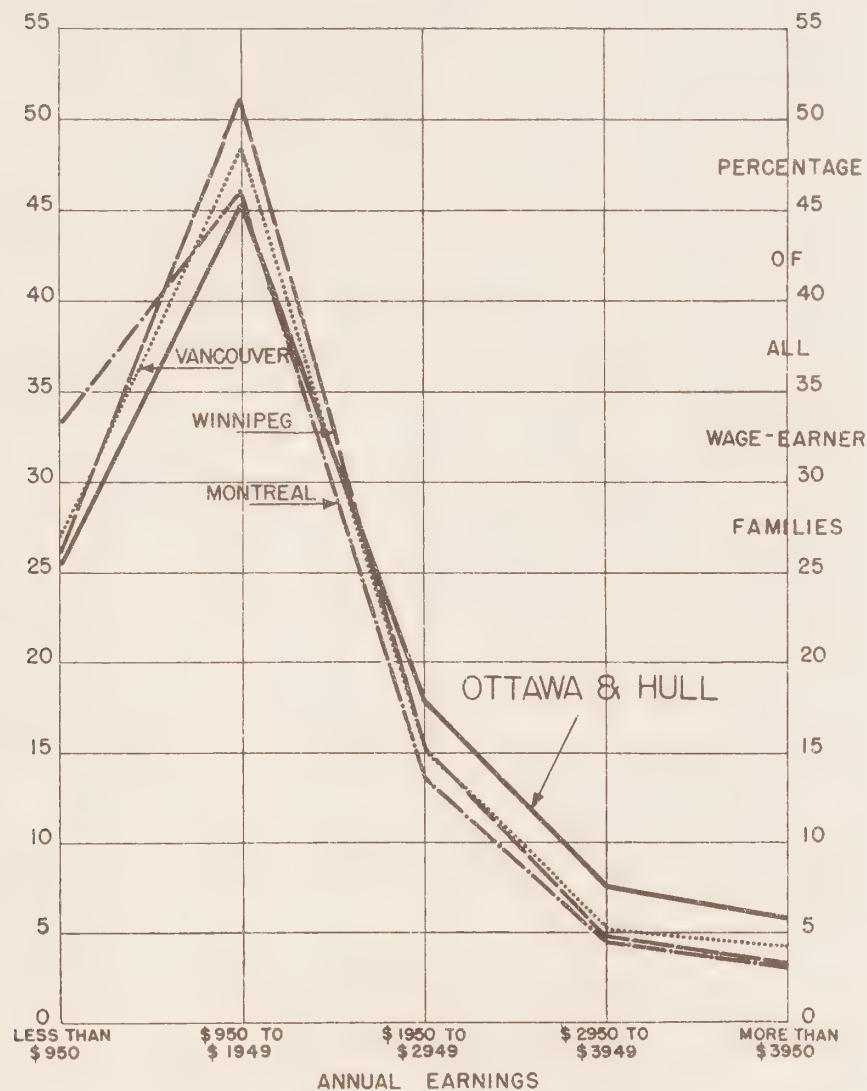
CITY OF OTTAWA

HOUSEHOLDS WITH LESS THAN ONE ROOM PER PERSON



# HOUSING

## FAMILY EARNINGS CENSUS 1941



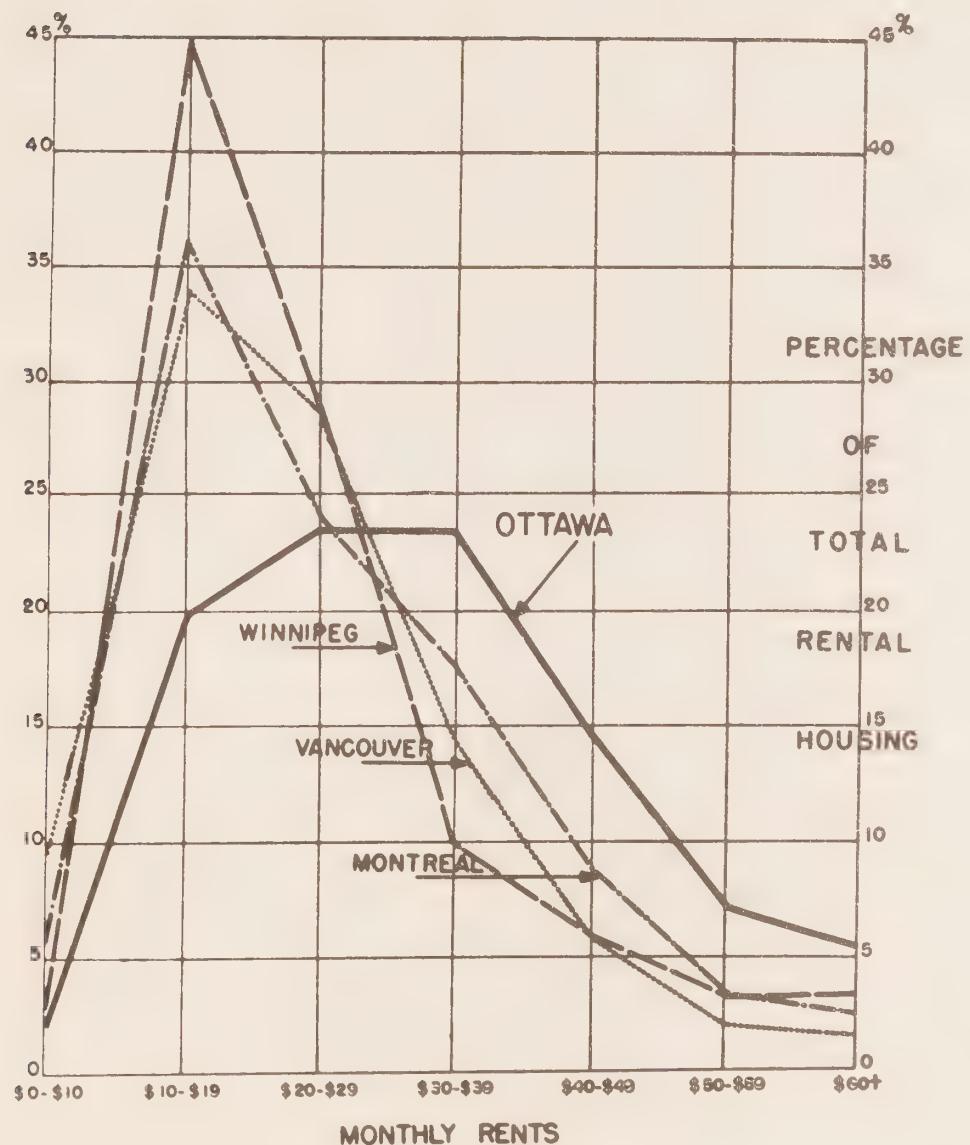
OTTAWA & HULL, MONTREAL, WINNIPEG,  
AND VANCOUVER

FAMILY EARNINGS



# HOUSING

## MONTHLY RENTS FOR HOUSING CENSUS 1941



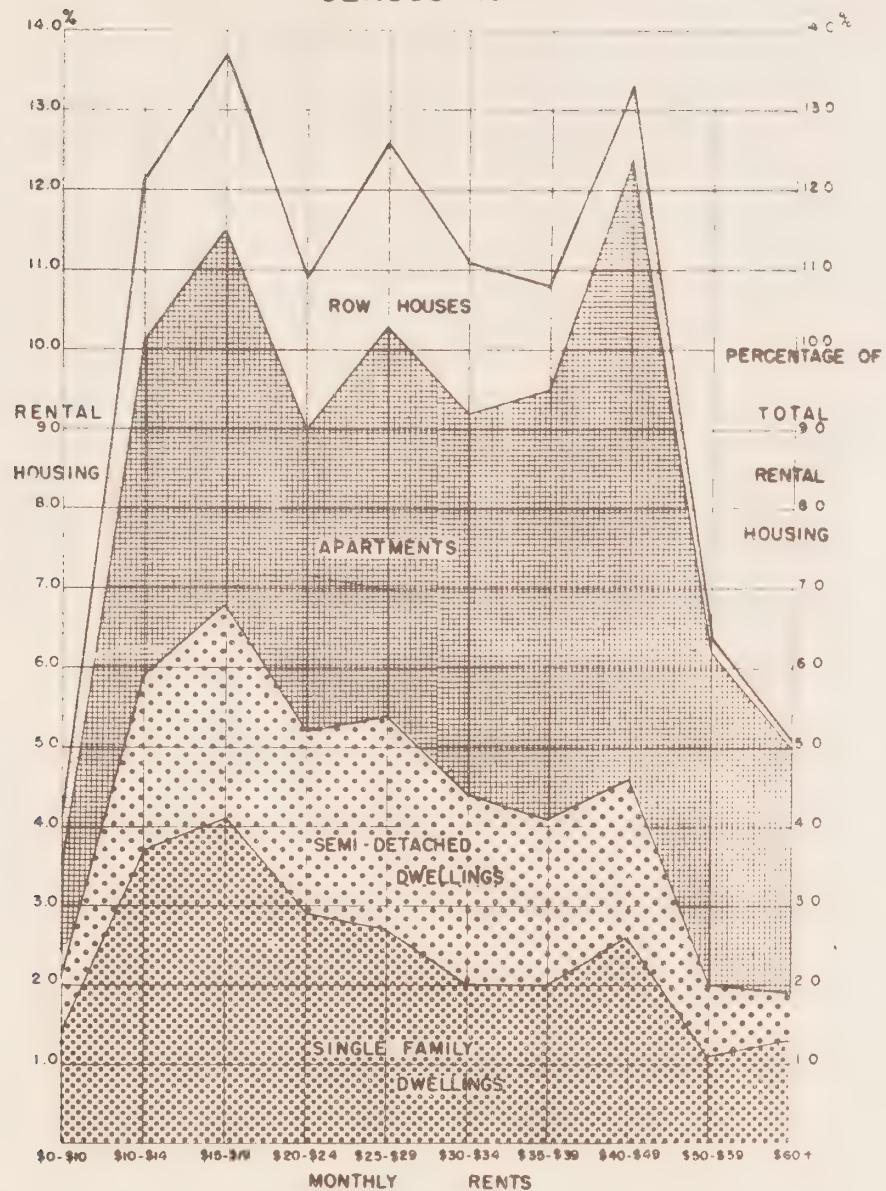
OTTAWA, MONTREAL, VANCOUVER,  
AND WINNIPEG

MONTHLY RENTS PER HOUSING



# HOUSING

## MONTHLY RENTS BY TYPE OF HOUSING CENSUS 1941



OTTAWA AND HULL

MONTHLY RENTS BY TYPES OF HOUSING



## 3

## DEMOGRAPHY

*Population growth—Density*

The constant and almost parabolic growth of population is indicated in diagrams 6, 10 and 12, which show a firm tendency towards a continuous increase.

Plate 11  
— 4

The total population of the region is approximately 273,000, i.e., 212,000 in Ontario, 61,000 in Quebec. The following table gives the population, as per 1947 census, in the 30 municipalities:

*Ontario—*

City of Ottawa.....	164,266
Town of Eastview.....	10,293
Village of Rockcliffe Park.....	1,599
Township of Nepean.....	19,963
Township of Gloucester.....	12,743
Fitzroy .....	612
Torbolton.....	1,958
March .....	626
	212,060

(In whole or in part—8 municipalities)

*Quebec—*

City of Hull.....	39,400
Town of Gatineau.....	4,800
Town of Aylmer.....	3,800
Village of Pointe-Gatineau.....	3,000
Village of Deschênes.....	543
Village of Wakefield.....	299
Village of Templeton.....	*
Village of Quvon.....	*
Township of Eardley.....	*
Municipality of Onslow.....	472
Municipality of Onslow South.....	750
Municipality of Masham North.....	415
Municipality of Sainte-Cecile-de-Masham.....	*
Municipality of Wakefield.....	*
Municipality of Wakefield East.....	490
Municipality of Hull East.....	*
Municipality of Hull West.....	924
Municipality of Hull South.....	2,556
Municipality of Templeton North.....	*
Municipality of Templeton West.....	*
Municipality of Templeton East.....	*
East part of Templeton East.....	3,750
(* estimated 3,750).....	61,199
Approximate Total.....	273,259

(In whole or in part—22 municipalities)

The population density is in general small. As an example, the population of the City of Ottawa is distributed as follows:

OTTAWA—DENSITY OF POPULATION (1947)

Ward	Population	Acreage	Density per acre
Victoria.....	11,389	612.2	18.6
Dalhousie.....	17,529	420.3	41.7
Elmdale.....	20,171	765.5	26.4
Wellington.....	18,611	329.7	56.4
Capital.....	14,842	519.5	28.5
Riverdale.....	13,911	774.6	18.0
Central.....	16,728	373.9	44.8
St. George's.....	20,575	537.7	38.3
By.....	11,143	201.3	55.4
Ottawa.....	13,197	229.9	57.4
Rideau.....	6,170	335.0	18.4
	164,266	5,099.6	32.2
Water.....		909.6	
	164,266	6,009.2	27.3

The total population of the urban area counts for about 238,000.

Plate 13

The estimated figure of urban population of 250,000 for 1950, as foreseen by the authors of the Holt Report in 1915, has been almost verified by the facts; 238,000 in 1947. It therefore now seems as if the total population of the Capital area might easily reach one half million by the end of the twentieth century. However, even from the most likely tendencies, it is impossible to determine, fifty years in advance, whether or not the development of the Capital Region will justify a still larger population, due to its major function as the Capital and the possible expansion of industry. If such should be the case, we have envisaged two alternate solutions, submitted in Part II.

*Racial origin of population—Religions*

Plate 12

The present distribution of English and French speaking populations in the Capital Region is a rather representative symbol of the whole Canadian people, as shown on graphs 8 and 11. It is a positive demonstration of the wisdom of Queen Victoria when she selected Ottawa as the future Capital of Canada in 1858, although at that time the predominant element in Ottawa was from British descent. But gradually, commerce, industry and public administration brought to both sides of the river a continuous addition of French speaking population, which has now stabilized in a balanced proportion the two basic components of the Canadian population, reflecting the demographic status of the nation. Similar comment may be made about the proportion of religious denominations, with a slight difference in favor of the Roman Catholic faith, due to its French and Irish components. (Graph 9)

Plate 19

Graphs 13 and 14 show the comparative population by ages and marital status.

## 4

### ACTIVITIES

#### Plate 18

Consequent to the demographic quantitative survey, analysis of the active population shows, by graphs 15 and 16, the predominance of *civil servants*, expressive of the function of the Capital. This includes not only the official census of civil servants directly occupied in governmental work (about 35,000), but also the various professions indirectly depending upon the Government and public administration.

#### Plate 20

Besides this predominant occupation, industries within the Capital Region indicate a substantial tendency toward normal development, a desirable factor in prosperity and urban equilibrium.

Lack of accurate information covering farming communities precludes determination of the correct percentage of agricultural workers.

It is a fact that most of the artificial capitals, limited as they are to their governmental and administrative functions, are economically a burden to their Nations, unless they gradually acquire the normal character of self-supporting communities. Ottawa presents this fortunate condition, not that of a huge metropolis with complex problems, but a city of reasonable importance, spacious and uncongested. It is already basically fitted for a well balanced and self-supporting community life, through normal enhancement of commercial and industrial activities, within a large frame of farm and wood lands, completing the cycle of collective life of a total population which might double in number within the next two generations.

## 5

### HOUSING

#### *Housing densities and classes—Housing Conditions*

In general, housing standards within the urbanized regions of Ottawa, Hull and their environs compare favourably with other North American cities of similar size, and are superior, in many respects, to some cities less favourably situated from the points of view of natural environment and the natures of their industrial enterprises.

In common with such, however, there is evidenced, in more or less degrees, the effects of time, which, untempered by rational foresight and lacking respect for other than the blind demands of progress, has ultimated in depressed residential areas.

Within the whole region an extensive analysis has been made of housing in relation to population density, to types of houses and their occupancies, to rentals and earnings.

Diagram 18 shows the number of persons per household, in relation to the type of housing, i.e., single family, double family, apartments and row-houses, in the urban area. Detailed land use plans, at the scale of 200'=1 inch, give the relative distributions and locations of the various types of dwellings.

In diagram 19, the numbers of persons occupying households is shown in relation to the number of rooms occupied, to emphasize abnormal crowding of certain households; and in diagram 20, the number of rooms per household by type of housing, showing the relative percentage of various types of households in regard to the number of rooms available.

Plate 38

Diagram 21 shows the large percentage of insufficient accommodations, as, for instance, 82.8 per cent of families of 9 persons live in houses of less than 9 rooms, while only 5.4 per cent of the couples live in one room dwellings. This is confirmed by the diagram showing the percentage of rooms per person: 60.1 per cent of the one room dwellings house more than one person, and 11.2 per cent of the nine room houses are occupied by families of more than 9 persons.

Diagram 22 gives an interesting comparison of family earnings in Ottawa and in other comparable cities in Canada. In Ottawa, the percentage of low earnings is slightly lower, while the percentage of higher earnings is greater than in the other cities, owing to the predominance of civil servants in the Capital.

Diagram 23 compares Ottawa with other Canadian cities in regard to monthly rents. For the same reason (functions of the Capital) monthly rents in Ottawa are decidedly higher, while in the other cities, low rents show a higher percentage, especially in Winnipeg.

Plate 39

In diagram 24, monthly rents are analyzed for each type of housing. The co-ordinated study of such diagrams, with plans of population density, of location, and of land and building value, gives a rather accurate presentation of housing conditions in the Ottawa-Hull region.

Plate 40

The detrimental factors presented within the above referred to diagrams show distinct tendency to manifest themselves within common areas of depressed housing, i.e., population density in the form of crowded households, low rentals, doubled up families and dwelling accommodations of subnormal standards and conveniences. Further, such conditions invariably occur within areas of low land and building values, traceable in almost every instance to such factors as the proximity of railroad lines and yards, industry and certain types of commercial nuisance, and to the development of lands initially unsuited for housing.

### *Hotel Facilities*

To accommodate the various classes of floating population within the Capital, consisting of Members of Parliament, officials from Provincial Governments and administrations, diplomats and members of foreign missions, delegates from all parts of Canada and of foreign countries to the great number of functions and conventions of all kinds, political, economic, scientific, etc., and for touristic purposes, Ottawa and Hull have an insufficient number of hotels. The approximate total available bed accommodation is 1,950.

Due to this lack of accommodations, a great number of rooms are rented in private houses, having limited comfort. Tourists have to use cabins in ribbon developments along highways outside of the cities, a most unsatisfactory remedy for deficient hotel capacity.

The anticipated increase of both official and touristic demands make this situation more pressing. Hotels of various types should be built in appropriate places in the centre and in the quieter sections of urban and suburban areas.

### *Present Zoning Conditions*

Despite specific recommendations made within the Todd Report (1903), the Holt Report (1915) and the Cauchon Report (1923), comprehensive zoning has not yet been implemented in the City of Ottawa. Restrictive by-laws have been enacted sporadically and largely at the demands of property owners whose interests were, or already had been jeopardized.

By means of private deed restrictions, real-estate developers have long recognized the necessity for protection, but, from lack of knowledge of the fundamentals involved, in many instances, only succeeded in perpetuating conditions which, in the ultimate, proved detrimental. On the other hand, such restrictive by-laws as have been enacted, while in some measure serving to ameliorate conditions, have had the effect of forcing the conditions against which protection was sought, into contiguous areas not so restricted, although equally meriting such protection. In the City of Hull, by-laws controlling the use of land have been enacted and consolidated, but in a manner such that, comprehensively considered, they in large measure nullify the objectives initially intended. In adjoining municipalities, control through zoning is in instances entirely lacking, while in others, such zoning as has been the subject of legislative action, is either too restrictive or has been predicated on erroneous premises, conditions which in either case will ultimate to their detriments.

Throughout the area there is evidenced the effects of mushroom outgrowths, due to urgent needs, lack of previous planning and unrelated hasty subdivisions, with no provision for the essential human needs of community life. Any urban development is bound to degenerate if composed in the aggregate of successive groups of houses, in relation to which no space has been reserved for schools, churches, commercial centres, community halls, playgrounds and open spaces for rest and relaxation. Its inhabitants will necessarily have to seek elsewhere for these amenities, provide them through costly and wasteful displacements, or forego that concept of living to which these amenities are essentially the complements.

Within the various communities comprising the Capital region, some have elaborate but inadequate local by-laws, in cases too rigid, while neighbouring townships or villages entirely lack any such provisions. In others, existing zoning by-laws are inefficiently implemented, are in large measure nullified by multiple amendments or are drafted without relation to the physical plan of the community. This lack of vital balance may be harmless in an isolated and newly established community, but in a group of neighbouring communities, it becomes detrimental to the whole if certain of the components are deficient in this respect.

A comprehensive zoning system, in which every by-law is carefully *adapted* to the character of each part of the developed area, prevents inadequate unification of the whole, and inhuman monotony of habitat.

Zoning must be flexible in its adaptations to the various classes of residential properties, in order to meet the needs and aspirations of various types of families. In doing so, the new community will not differ from the old village, from which inspiration can always be safely taken. And there is a more urgent need for the fostering of community welfare in the town of the twentieth century, due to the complexities as well as the advantages which come with progress. A soul-less housing development, a mass of crowded tenement houses, may provide essential shelter, but lack the elements necessary for happy living. One of the merits of town planning is to protect mankind against this modern menace. The incidence of such wise policy on *economics*, and on *social equilibrium*, is obvious.

## 6

### LAND USES

*Plates 14, 15,  
16, 33,  
34, 35,  
36.* *Urban, suburban and rural zones — Detailed survey of built-up grounds*

An extensive study of the land uses included:

1. Land distribution, as to built-up areas for different purposes, street surface, open spaces, rural land, water, etc., for most of the municipalities of the region represented by comparative diagrams;
2. General land uses within urban areas, obtained by inspections and inquiries in each municipality and summarized for each city block;
3. Detailed land use plan, giving up to date use of every property lot.

Such research has been made for the cities of Ottawa, Hull, the towns of Aylmer, Eastview, Gatineau, the townships of Nepean, Gloucester, the villages of Rockcliffe, Pointe-Gatineau. (Illustration 25 shows, as an example, the land use plan for Eastview.)

The land use plans give not only the representation of the different activities, industrial or commercial, and the density of residential blocks, but also the present state of development of the grounds owned either by the Government, the municipalities, or the various public or semi-public institutions.

An important element of the land use plan is the survey of subdivisions existing, planned or proposed, and the present state of new streets, in view of their eventual revision or co-ordination in conformity with the comprehensive project.

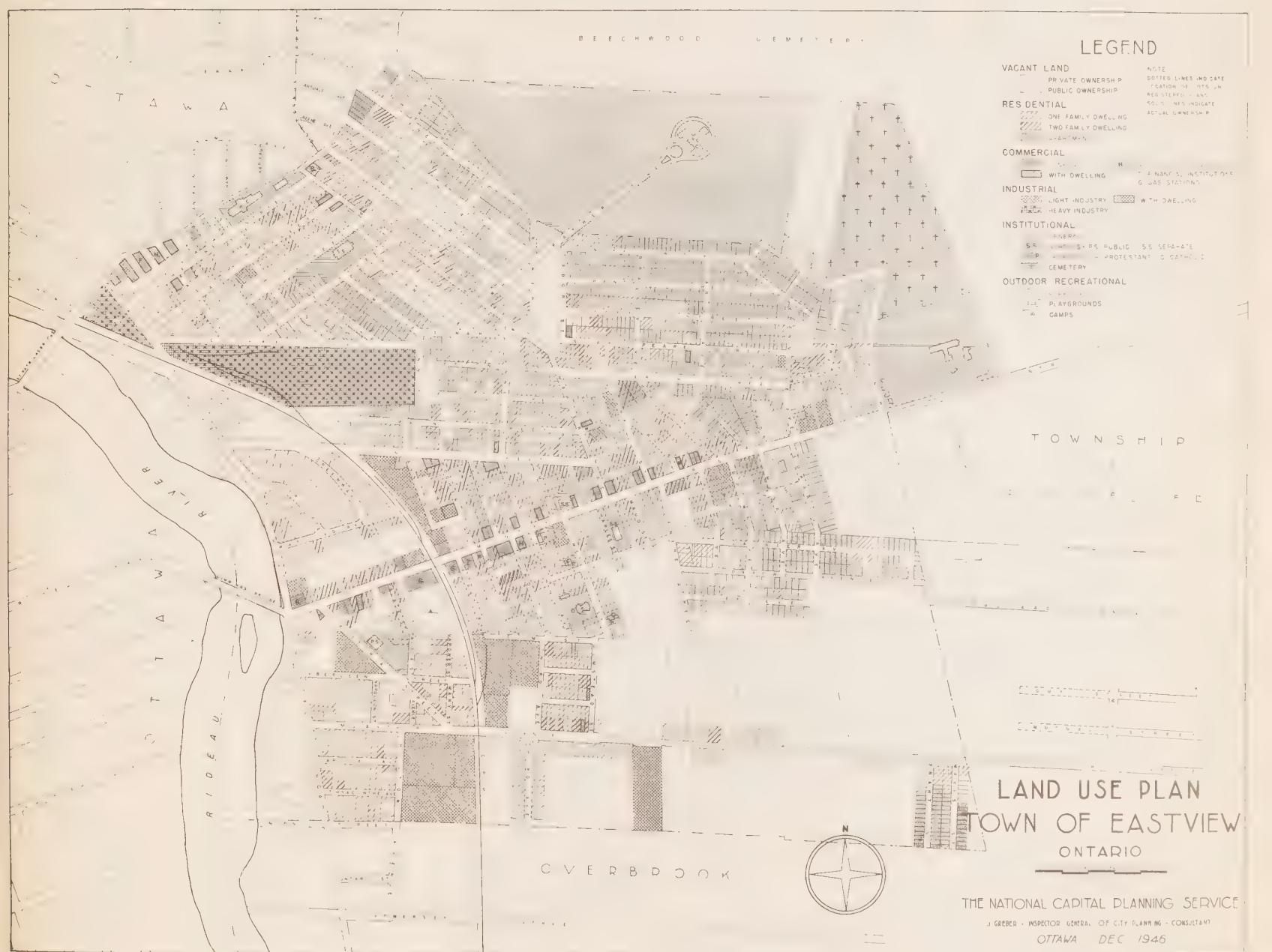
## 7

### LAND AND BUILDING VALUES

*Plate 17* *Possibilities of Increased Land Values Through Planning*

A survey of land and property values is an essential factor in relation to existing conditions. It not only shows the real estate situation, but it gives a clear conception of increments and depreciations. It is the safest guide for sound and practical planning.

# LAND USES



## LAND USES BY LOTS



# LAND VALUES



LAND VALUES FROM ASSESSMENT ROLLS

ILLUSTRATION 26



# CIRCULATION



EXISTING HIGHWAY SYSTEM



The best town planning project is bound to fail if the financial possibilities of its execution have been overlooked. Therefore, a careful study of *land values and building values* is essential, before any solution or proposal is elaborated. It is obvious that, if the basic plan of existing conditions from which the accurate vision of possible improvements may be obtained, contains the detailed representation of the present value of every part of the territory, the town planner will be able to *concentrate* his proposals on land of low value, and avoid utopian operations on parts of the city where high assessments already show little chance for substantial increase. From this viewpoint, the land value plan of Ottawa and Hull is an excellent guide for the planner; its direct relation to the urgent problems to be solved is obvious: railroad situations, blighted areas, congested and unsanitary housing, are clearly incident to sections of the cities where the land values are comparatively low. Improvement of such sections is therefore made possible, and, by fostering land revaluation, becomes a profitable operation.

In countries like France, England or Germany, by applying the principle of excess-condemnation, many improvements have rapidly repaid their cost. Similar operations carried out on land of high value would only have resulted in increase of municipal debts or taxes. Further, those countries have town planning laws which in effect reduce the cost of expropriations by a more efficacious use of zoning by-laws than the present provincial legislations offer to local authorities.

As explained in the various chapters of Part II (Justification of Proposals), and Part III (Gradual Schedule of Execution), the land value element has been taken as the commanding basis for the study of most of the proposed operations.

## 8

### CIRCULATION

#### *Roads*

Plate 26

##### ROAD SYSTEM OF INTERURBAN AND SUBURBAN TRAFFIC:

Ottawa and Hull are the meeting point of several *provincial roads*:

###### *Province of Ontario—*

Road No. 15 from Perth connected to Road No. 7 from Toronto, Smiths Falls.

Road No. 16 from Prescott.

Road No. 17 from Hawkesbury (Montreal) through Ottawa to Pembroke and North Bay.

Road No. 31 from Morrisburg (Metcalfe Road).

###### *Province of Quebec—*

Road No. 8 from Montreal through Hull to Fort Coulonge and Pembroke.

Road No. 11 from Maniwaki (Mont-Laurier).

#### SECONDARY ROADS:

*Ontario*—Russell Road from Ottawa to Russell,  
MacArthur Road to Cyrville,  
Bowesville Road to Manotick,  
Merivale Road to City View and Prescott Highway.

*Quebec*—Mountain Road from Hull to Breckenridge,  
Mine Road to Chelsea,  
Perkins Road to Saint-Pierre-de-Wakefield and Poltimore,  
Masham Road from Wakefield to Saint-Louis-de-Masham.

Several base line roads and transverse highways serve the outskirts of the central area.

#### Plate 8

The cross-town traffic is provided for by urban highways, already congested as streets by local traffic. Therefore, adequate solutions have to be provided either for widening urban thoroughfares or for the rerouting of those communications.

The *entrances* of the main roads into the Capital Region are through suburban developments, and lack the necessary width, safety and dignity as entrances to a Capital.

Montreal Road through Eastview—  
Russell Road from Cumming's Bridge to Hurdman's Bridge—  
Metcalfe Highway, through Bank Street and ribbon development south of Billing's Bridge—  
Richmond Road and Carling Avenue (Nos. 15 & 17)—  
Aylmer Road (No. 8) and Chelsea Road (No. 16).

#### Street System

Rectangular layouts, generally disregard the topography, the traffic capacity, and the function of each thoroughfare. Whatever be that function: through traffic, commercial or residential, the width of the vehicular channel, its profile, its crossings and parking facilities, have been overlooked. Their characteristics are largely those of subdivision in blocks for building purposes, rather than for circulation.

Fortunately, the average width is *66 feet* for north-south streets and *60 feet* for east-west streets. Narrower streets are exceptional.

But a pre-established functional street plan would have provided for wider streets for general traffic and probably for more economical street layouts for local access to residential blocks.

However, a great number of planted streets in the city of Ottawa may be cited as excellent examples of residential streets. They create an atmosphere of quietness and privacy, fresh and shady in summer, and are most attractive in the spring and especially during the colourful autumn. Even during the long and snowy winter, they hold unforgettable charm. In this respect Ottawa warrants

Sir Wilfrid Laurier's prophecy when he foresaw that it would become the Washington of the north. Such important factors of beauty, despite their minor defects, must not be spoiled for the sake of easier mechanical equipment, but on the contrary must be carefully maintained and developed throughout the whole Capital Region.

### *Traffic Density*

At certain points of the road system within and leading to the Capital, the congestion at the peak hours has gradually appeared in the city as a result of the rapid increase of automobile traffic.

In 1947, 40,000 motor driven vehicles were registered in the Capital area, and during the touristic and sports seasons, summer and winter, a large amount of cars from various parts of Canada and from the United States, increase the traffic and parking problems. The solutions to the traffic problem are set forth in Part II; they are of three different natures, traffic regulation, street widening, new arteries, and have been applied to appropriate points, through immediate, short range or long range operations.

Furthermore, it is expected that the enforcement of more rational zoning by-laws will gradually modify the traffic movements to an extent such that a large amount of present movements will be eliminated or channelized to more appropriate thoroughfares. One major cause of traffic congestion comes from the lack of specialization of the streets to their predominant functions, and to the use of main arteries as local service roads or vice-versa. Wellington Street, in the central area, ought to be entirely limited as the access of Government, Parliament and other public buildings, and its function so exclusively reserved. Sparks Street is a shopping street, not a cross-town artery, such as Dalhousie Street. Even Bank Street, another commercial street, can easily be relieved by giving Lyon Street a better southern outlet.

It has been proved by experience in many other cities that rational systemization of traffic facilities is a more efficient and more economical remedy than the improvement of presently congested streets.

In Part II, -3-, solutions are submitted for the present street congestion.

The so-called "bottleneck", or eastern part of Confederation Place, is probably the city's worst point. In 1938-39, plans were prepared for the comprehensive treatment of this important part of the city. But only the T-shape intersection of Elgin and Wellington was completed, while the eastern approach remained unchanged, owing to the intervention of the Second World War. Even Elgin Street was temporarily graded, in view of the Royal Visit in May 1939. It was understood that the plans then submitted for final grading of the street and the completion of the eastern part of the Plaza would have been carried out in 1939 or 1940, giving a wider approach to Rideau and Sussex Streets by the elimination of the Daly Building and by providing double-deck parking facilities on part of its site.

The present plans for this part of the city include the proposals already made in 1939 as an interim improvement, which will be further developed and extended, when the ultimate implementation of the present proposals will be possible.

The parking problem in Ottawa has become a matter of major concern. In spite of the utilization of many unbuilt grounds for temporary parking, approaches to business sections, administration buildings and hotels are crowded by parked cars occupying space essential for traffic lanes.

We have submitted in Part II, -3-, several suggestions as solutions to remedy these conditions.

## 9

### TRANSPORTATION

#### *Railroads*

Plate 23

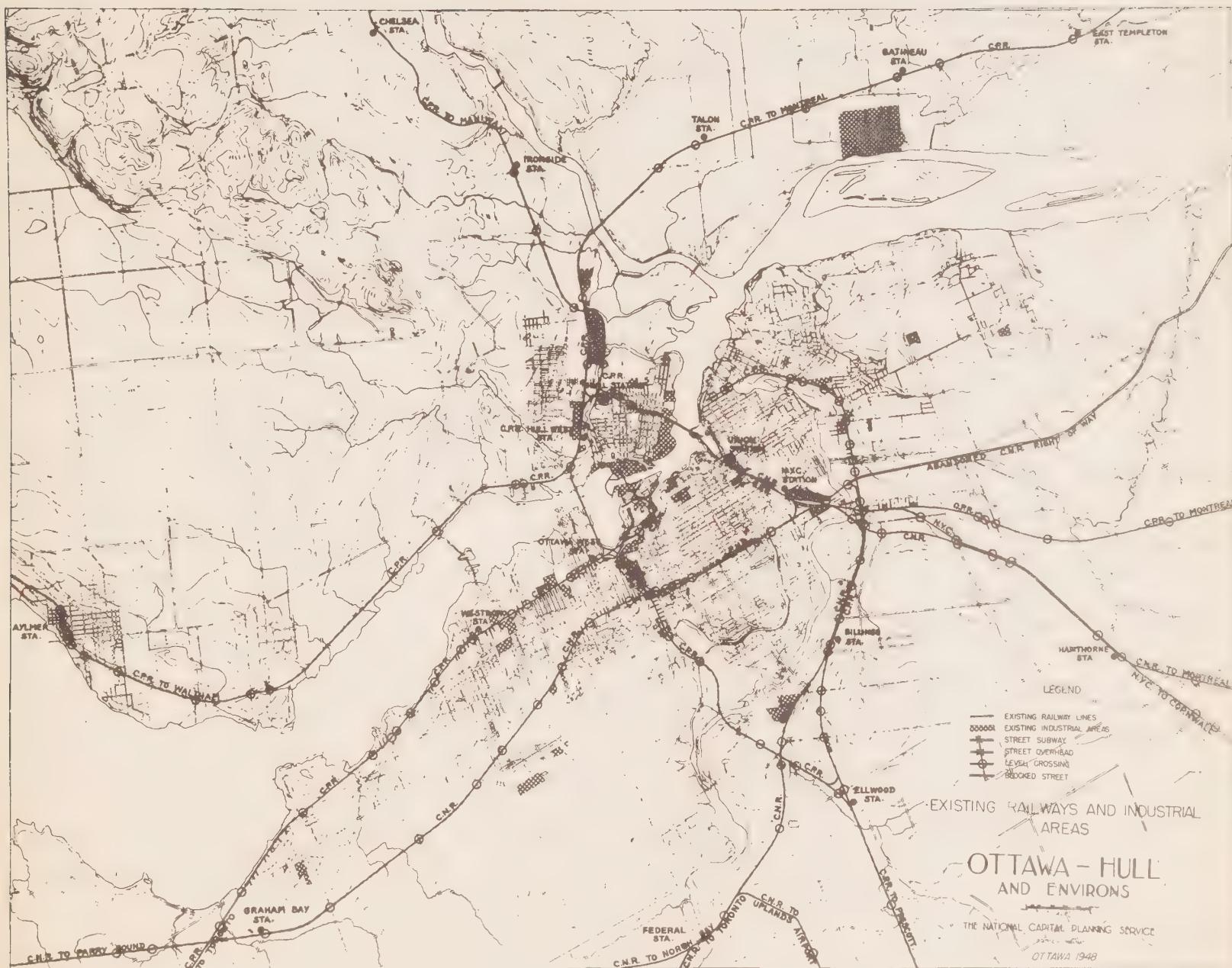
If space in this purposely condensed report had permitted, we would have quoted at length the Holt Report, especially its Survey of Transportation facilities.

Thirty-three years ago, with conditions far less complicated than now, the key of the plan for the National Capital was the railway problem. The Holt Report stressed as its major recommendation "that the pivot, on which hinges the success or failure in carrying out any comprehensive plan, lies in the proper solution of the problem of steam railway transportation."

An extensive survey of existing conditions and of future needs, was positively conditioned by its first Chapter on Railways and their terminals. We have found now the same problem, but aggravated by thirty-three years of growth of the cities, in size and density, in traffic and transportation requirements.

The initial establishment of railway lines was logical, owing to the moderate size of the cities, and the number of separate lines is explained by the fact that there were three competing companies, Grand Trunk, Canadian Pacific and Canadian Northern. The lines were located to meet the immediate demand, at lowest possible cost, and at the grade of the surrounding terrain, but no consideration was given to the future growth of the urban area, no provision for grade separations. Eleven different lines traverse Ottawa and Hull, separating the grounds in eight parts in Ottawa, and four parts in Hull. More than one hundred grade crossings block important thoroughfares. Residential developments are scattered in a framework of tracks, warehouses, factories, railway depots, with their concomitant noises, smoke and danger. Industries, naturally following railway facilities, add to the blight already caused by railway barriers, and both railway operations and industrial development are hampered by crowded surroundings, with no chance of expansion. Railway operations are complex and result in a waste of time, labor, money. Railway facilities are insufficient for the present volume of passengers and freight. Freight yards in the centre of the Capital, several single track lines, lack of space for new industrial sidings, slow shunting,

# TRANSPORTATION



EXISTING RAILWAYS AND INDUSTRIAL AREAS



distances of several miles from the station to the yards or round houses, in brief, it can be stated, that the city expansion and building density is as much a detriment to railway operations and efficiency, as are the railways to normal, economic and safe city life.

A complete remodelling of railway facilities was highly justified in 1915. Its emergency is now a matter of vital importance for both railway and urban improvement. Amongst the operations proposed in the Holt Report there were four most desirable items:

1. Elimination of cross-town lines (G.T.R.);
2. Elimination of the Sussex C.P.R. line from Sussex Street yards to Hurdman's Bridge;
3. Elimination of the north-south Cross-town line from Walkley Road to Broad Street Station;
4. Grouping of C.N.R. and C.P.R. from Montreal, also the G.T.R. and N.Y.C. lines in one trunk to the Central Terminal in Ottawa.

For the time of the Report, such proposed simplifications would have constituted a substantial measure of progress. But it would have perpetuated and increased along the Rideau Canal an objectionable barrier of railway tracks and yards, in spite of several bridges proposed for east-west street traffic. In addition to this disadvantage, any possibility for future improvement of the city in that particular central and naturally gifted area was nullified, and the only possibility of expansion granted to the railways at the expense of one of the city's best potential residential areas. The industrial centre envisaged at that time was certainly, and to say the least, undesirable.

The city of Hull was deprived from possibility of any improvement of the blighted area existing on both sides of the C.P.R. line which crosses it diagonally.

Another industrial area was envisaged west of Wellington Street, with a west end freight terminal. A costly tunnel was proposed under Wellington Street. The temporary relief arising from such improvements would have been definitely inadequate solely from the point of view of transportation and industrial facilities; but, above all, it would have rendered impossible the enlarging of the central area of the Capital, and precluded free access from east and from west, by overloading the street system from Wellington to Laurier by intercommunications of trucking between the western and eastern freight and industrial centres.

A solution good for today is always a costly experience, when the needs of tomorrow have not been foreseen. Conditions have changed considerably since 1939. The Second World War, new mining discoveries and industrial expansion have made of Canada a greater nation. Its Capital, worthy of its new potentialities, is quite a different problem from what it was before 1940. The Government and the joint committee of the Senate and House of Commons have clearly shown their vision. We have therefore acted accordingly, and our proposals for railway revisions are intended to meet the demands of the future.

## Street Cars and Buses

Serving the National Capital Region today, there are no less than twelve individual transportation companies. In addition to this, there is one railway company serving commuters from the western Gatineau River front. Seventy per cent of the present facilities did not exist ten years ago, and the development of these lines can be directly attributed to the Capital's wartime requirement. Since the war years, these companies have enjoyed a healthy existence due to postwar construction of homes and industry. The prodigious growth of Public Transportation is indicated by the fact that 30 years ago the public's needs were serviced by one electric railway in the City of Hull and one in Ottawa.

### Areas served

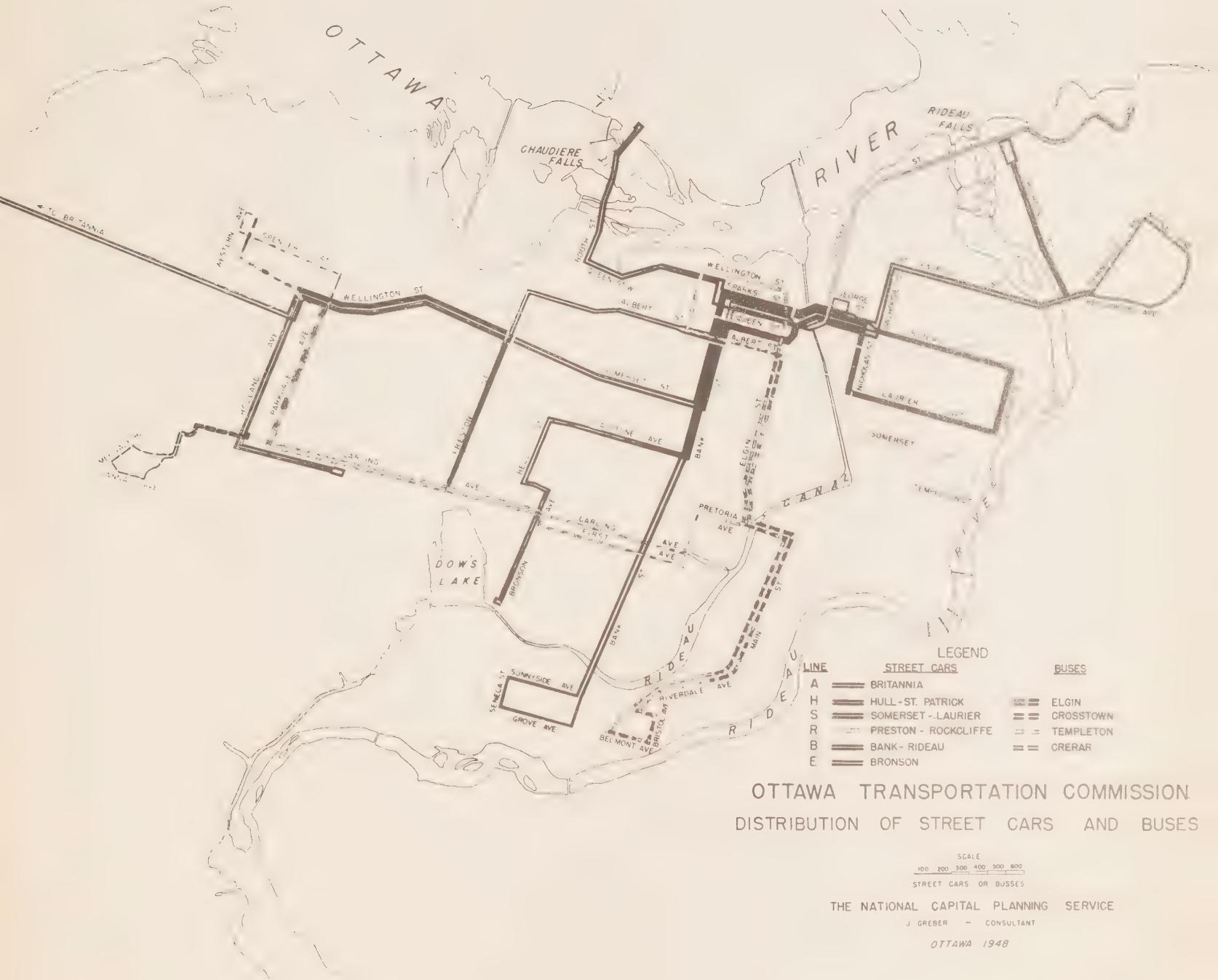
For the purpose of studying the coverage of the various services, it is most convenient to divide the region into two sectors—the northern sector extending north from the Ottawa River, and the southern sector extending south from the Ottawa River, which are sub-divided into zones. In the northern sector the area contained within the municipal limits of the City of Hull is one zone, while the remaining portion within the National Capital Region north of the Ottawa River is divided into western, northern and eastern zones. Similarly, the Ontario side of the Ottawa River is divided, the City of Ottawa forming one zone, and the remaining area within the National Capital Region south of the Ottawa River divided into westerly, southerly and easterly zones.

### Northern Sector

The City of Hull within its municipal boundaries is now served by a new bus service known as the Hull City Transport. This company not only provides urban transportation, but operates extensive suburban lines. The city formerly had a street car service which was allowed to deteriorate to such an extent that the city was not prepared to renew the franchise. In 1946 they granted a bus franchise to the Hull City Transport Company to serve in lieu of the electric company. Hull City Transport operates an all bus service, which, by its very nature, is flexible and can meet the needs of the city as it expands. It is well to remember, however, that the narrow streets and limited space at intersections have caused the Hull City Transport Company to use a vehicle of small capacity.

*The western zone* of the northern sector has three bus lines which seem to meet its present requirements quite adequately. The Hull City Transport has a suburban service to the village of Deschênes. The Gatineau Bus Company services the town of Aylmer, while points west of Aylmer are served jointly by the Pontiac and Gatineau Bus Companies. We must assume, therefore, that service rendered by these companies is commensurate with the needs at present in the western zone.

# TRANSPORTATION



O.T.C. STREET CARS AND BUSES

ILLUSTRATION 29



*The northern zone* is served by the Gatineau Bus Company, the Hull City Transport and the Canadian Pacific Railway. This zone differs from most others in that it has a high percentage of seasonal traffic to cope with. The Gatineau Bus Service caters to the regular traffic, while the Hull City Transport provides a service well designed to meet the requirements of the multitudes that swarm to the Gatineau National Park through the autumn, winter and spring. The Canadian Pacific serves the west bank of the Gatineau River with a commuters service winter and summer.

*The eastern zone* of the northern sector, which is predominantly industrial, is served by the Gatineau Bus Company, and an interurban service is furnished by the Provincial Transport, a company which is affiliated with the Colonial Coach Lines serving the Province of Ontario. Generally speaking, the Gatineau Bus Company carries most of the industrial workers commuting from Ottawa and Hull to industrial areas of Gatineau, Buckingham and Masson.

This completes the picture of the service north of the Ottawa River in the National Capital Region and can be summed up in a few words. The system is, with the exception of the Commuters Service on the Canadian Pacific Railway, entirely flexible by nature, and can be extended to meet the needs of the area concerned with the expansion of the various communities and developments.

### ***Southern Sector***

*The City of Ottawa* within its municipal boundaries is served by the Ottawa Transportation Commission. This commission came into existence in the month of October, 1948, when the Corporation of the City of Ottawa purchased the Ottawa Electric Railway. While the commission operates six different street car routes and four bus routes, it can hardly be termed adequate to meet the needs of a rapidly growing population. A serious problem does exist in the form of congestion in the Central area. This, however, is dealt with at length in this report.

One of the commission's tram lines extends outside the municipal limits of the city to Britannia Park, a distance of seven miles from Confederation Place.

*The westerly zone* of the southern sector is served by one urban street car line of the Ottawa Transportation Commission, and three suburban bus companies, The Capital, Richmond and Nepean Bus Companies, and one interurban bus line operated by the Colonial Coach Company. Up until two or three years ago, the service in this zone was entirely inadequate. However, the addition of the Nepean Bus Company has alleviated a situation which was growing increasingly difficult with the rapid growth of Nepean Township south of the Richmond Road. The interurban bus lines carry passengers from Renfrew, Arnprior, Carleton Place, Smith Falls and intervening points into the Ottawa terminal. This zone, at present is well equipped with public transportation.

*The southern zone* has one interurban and two suburban bus companies serving it. The Greer Bus Company serves the communities adjacent to the Merivale Road. The communities abutting the Prince of Wales Highway to Prescott use

the interurban service of the Colonial Coach Lines. The Uplands Bus Company furnishes suburban service as far as the airport on the Bowesville Road and to the Research Council Building on the Morrisburg Highway. The Uplands Bus Company also serves the newly developed subdivisions in the Billings Bridge area. The Colonial Coach Lines serves to carry passengers from Metcalfe by way of the Morrisburg Road into the City of Ottawa. The public transportation facilities in this area are sufficient to meet the present day needs.

*In the easterly zone* the Capital Bus Lines provide two of the suburban bus routes to the city from Russell and from the Village of Navan. The Cyrville Bus Company provides a service for the market gardeners of Cyrville and the intervening points. The Town of Eastview, the Village of Overbrook, the New Manor Park Subdivision, the Airforce Station at Rockcliffe and the Research Council are provided for by an ever growing service of the Eastview Bus Company. The people who live adjacent to the Montreal Road beyond the Research Council are supplied with a commuters service starting at Rockland and serving Cumberland and other communities bordering on the Montreal Road. This zone has sufficient service to meet its present requirements, and it is felt that the companies serving it will be able to meet any demands placed on them by increased population in this area.

The principal activity of the area is the business of Government, which is concentrated in or adjacent to the central business district of Ottawa. This, and centralized industry, create a very congested transportation system, which funnels through Sparks and Queen Streets and over Confederation Place to Rideau Street. Fifty to sixty thousand street car and bus passengers pass through this neck each day. Queen and Sparks Streets are extremely narrow in comparison to the loads they carry. Parked cars force motorists out into the path of the trams, thereby slowing traffic to a crawl, not only in the rush hours, but throughout the entire day.

## 10

### PUBLIC BUILDINGS AND SERVICES

#### *Administration*

Commensurate with the constant rise of Canada as a Nation, the number of Government departments has gradually increased.

The last war likewise created additional needs for Government agencies, and many of them have proved to be permanent, while existing departments have been extended; almost all vacant grounds in the Capital have been covered by temporary Government buildings, and many services are scattered in rented office spaces, generally in obsolete and inefficient quarters.

The city administration, since the fire which destroyed the old City Hall, is housed in part of a commercial building, and police headquarters occupy decadent premises. The County Court and County Jail buildings are also outmoded and inadequate for the needs of a growing population.

As remedial measures for this lack of proper accommodation for the present, and in preparation for the future, in accordance with the long range planning of the Capital, together with the possibilities of satisfying in the next fifty years the requirements of all administrations, we submit in Parts II and III, a series of short range and long range proposals in relation to this matter.

### *Education*

*Ontario:* The University of Ottawa, since the foundation of the first college one hundred years ago, has occupied a central site and is gradually increasing.

Carleton College, a fast growing institution, will require adequate grounds and buildings.

Normal, technical, collegiate and high schools, in cases insufficient for their needs; and their distribution within the urban territory, will require to be supplemented by new establishments, in view of the foreseen urban extensions within the Ontario part of the Capital.

#### *Plate 21*

The public school and separate school tabulations listed in the following table, show in the aggregate irregular distributions in regard to the density of school population and insufficient ratios of space per pupil. Adequate grounds have to be reserved for new schools in the future community and neighbourhood units.

*Quebec:* In Hull, colleges, high schools, primary and non sectarian schools present the same characteristics as in the Ontario part of the Capital, but in reversed denominations, owing to the difference in the educational system, and similar provisions should be made for future developments.

### *School Survey*

#### ONTARIO

	Ottawa	Rockcliffe	Eastview	Nepean	Gloucester	Total
<i>Public</i>						
No. of Schools.....	19	1	1	8	7	36
No. of pupils.....	8,961	210	236	1,940	709	12,056
Area of playground in Square Yards.....	98,853	38,720	4,840	135,333	72,711	349,131
No. of Square Yards per pupil.....	11	177	21	67	103	
Average No. of Sq. Yds. per pupil.....						29
Average No. of acres per school.....						2.0
Average No. of pupils per school.....						335

#### *Separate (Catholic)*

	Ottawa	Eastview	Nepean	Gloucester	Total
No. of schools.....	35	2	2	4	43
No. of pupils.....	9,318	789	336	818	11,261
Area of playground in Yards.....	62,273	47,213	3,922	45,980	150,499
No. of Square Yards per pupil....	7	47	12	56	
Average No. of Sq. Yds. per pupil.....					13
Average No. of acres per school.....					.72
Average No. of pupils per school.....					262

ONTARIO (*Continued*)

*High and/or Secondary*

	Ottawa	Nepean	Total
No. of Schools.....	5	1	6
No. of pupils.....	5,440	610	6,050
Area of playgrounds in Sq. Yds.....	30,125	6,667	36,792
Average No. of Sq. Yds. per pupil.....		6	
Average No. of acres per school.....		1.3	
Average No. of pupils per school.....		1,008	

*Plus*

	<i>No. of pupils</i>
13 Convents or Seminaries.....	1,189
2 Colleges.....	880
1 University.....	3,399

QUEBEC

<i>Public</i>	Hull	Deschenes	Pointe-Gatineau	Town of Gatineau	Total
No. of Schools.....	14	1	2	2	19
No. of pupils.....	5,206	112	540	685	6,553
Area of playgrounds in Sq. Yds.....	45,798	1,111	26,988	18,889	92,783
No. of Sq. Yds. per pupil.....	9	10	50	28	
Average No. of Sq. Yds. per pupil.....				14	
Average No. of acres per school.....				1.01	
Average No. of pupils per school.....				345	

<i>Separate (Non-Sectarian)</i>	Hull	Hull S.	Town of Gatineau	Total
No. of Schools.....	1	2	0	4
No. of pupils.....	276	59	20	355
Area of playgrounds in Sq. Yds.....	2,000	2,420	2,420	6,840
No. of Sq. Yds. per pupil.....	7	41	121	
Average No. of Sq. Yds. per pupil.....			19	
Average No. of acres per school.....			.35	
Average No. of pupils per school.....			88	

*Plus*

	<i>No. of pupils</i>
1 Convent or Seminary.....	38
2 Colleges.....	733
1 University.....	200
High School—Hull.....	115

SUMMARY

	<i>Ontario</i>	<i>Quebec</i>	<i>Total</i>	<i>Total</i>
	Schools	Pupils	Schools	Pupils
No. of Elementary Schools.....	79	23,317	23	6,908
No. of Secondary Schools.....	6	6,050	1	115
No. of Convents or Seminaries.....	13	1,189	1	38
No. of Universities and Colleges.....	3	4,279	3	933
Total.....	101	34,805	28	7,984
% of total population.....	17%		17.6%	17.2%

### *Religious Institutions*

#### *Plate 21*

No description could better depict the distribution within the urban area of churches of the various denominations than Plate 21, where ample provision for institutions of worship is shown within certain areas, while other sections call for new churches.

Large religious institutions, mostly Roman Catholic, exist and are contemplated in both Ontario and Quebec.

### *Hospitals*

Hospital facilities serving the urbanized region of Ottawa, Hull and vicinity are definitely insufficient. The bed accommodations provided at date by the major institutions in the area, as set forth in the attached tabulation, number only 2,237 and are relatively low for the population of 276,000 in the region.

#### *Ottawa:*

Civic Hospital (General) .....	852	beds
General Hospital (General) .....	350	"
Grace Hospital (Maternity) .....	56	"
St. Vincent Hospital (Incurables) .....	220	"
Perley Home (Incurables) .....	101	"
Royal Ottawa Sanatorium (Tubercular) .....	213	"
Strathcona Hospital (Infectious) .....	145	"

#### *Hull:*

Hôpital du Sacré-Cœur (General) .....	145	"
Sanatorium Saint-Laurent (Tubercular) .....	155	"
TOTAL .....	2,237	"

### *Cultural Institutions*

The main Municipal library, donated by the Carnegie Foundation, has a total of six branch libraries, three of which serve respectively the Rideau Street, Ottawa South and the west end areas, while two are operated in public schools, i.e., Bronson Avenue and New Edinburgh. While they have acquired a most valuable collection of some 204,900 books (1947), their accommodations are obviously inadequate and out of proportion for a Capital city.

The Capital has no National Theatre; opera music and dramatic performances are given in privately owned theatres and cinemas, and even in an indoor sports arena, the Auditorium, which is quite suitable for mass auditions, wrestling, hockey games, rodeos and pageants—its normal seating capacity is 5,000, which is capable of extension to 8,000. The municipally owned Lansdowne Park accommodations initially intended for exhibitions, sports and large conventions, offers a temporary relief to this deficiency of theatrical and auditorial facilities.

The Victoria Museum contains large collections of natural history, mineralogy, prehistoric life, primitive art and the Fine Arts (National Gallery). The building is large, but outmoded, and many collections are stored, for lack of adequate space for exhibit purposes.

In Hull, a large privately owned recreational hall, a few parochial halls and commercial movie theatres are the only places where cultural functions can be accommodated.

Several community centres have gradually been opened in schools in various parts of the urban area, but no comprehensive system has yet been planned, in spite of the commendable efforts and surveys of various citizens' organizations.

The National Film Board is a governmental agency within the Department of Reconstruction. It is the basis of a nationwide cultural and educational institution, for which permanent adequate headquarters and operational facilities have to be built.

The Capital region has no zoological garden, and apart from the flower gardens and arboretum of the Experimental Farm, no botanical garden. It has no national stadium for competitive sports, except the inadequate accommodations at Lansdowne Park and the Ottawa University Oval.

### *Utilities*

The comprehensive study of sanitation and water supply has been entrusted to experts on those matters. We have therefore worked in close co-operation with them, by furnishing them the necessary data covering present conditions and our planning proposals. In Part II we summarize our comments on this subject.

## 11

### SPORTS AND PHYSICAL EDUCATION—OPEN SPACES

#### *Sports*

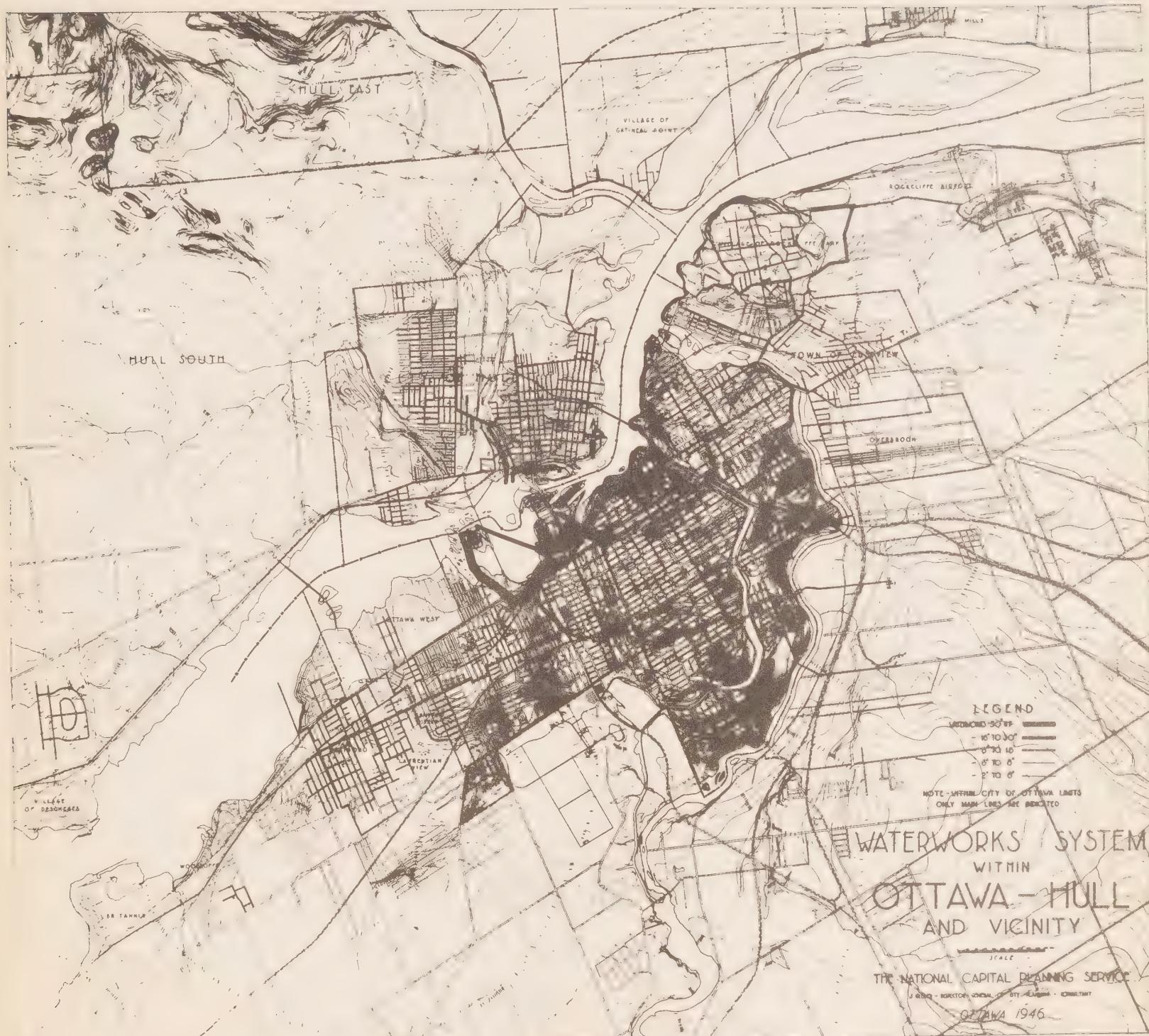
*Plate 28*  
— 29 The sports facilities of the Capital Region are decidedly insufficient.

The stadium at Lansdowne Park has a normal seating capacity of 10,000, and, when occasionally augmented by bleacher-seat accommodation, of 14,000.

The University Oval stadium can accommodate 1,500 spectators.

In Ottawa, Hull and vicinity, local sports grounds, and private playgrounds and sports clubs, principally tennis, provide satisfactory but limited accommodation for certain parts of the urban area, but no overall system of physical education has yet been developed. Ten golf clubs, of various quality, of which five are

## PUBLIC SERVICES

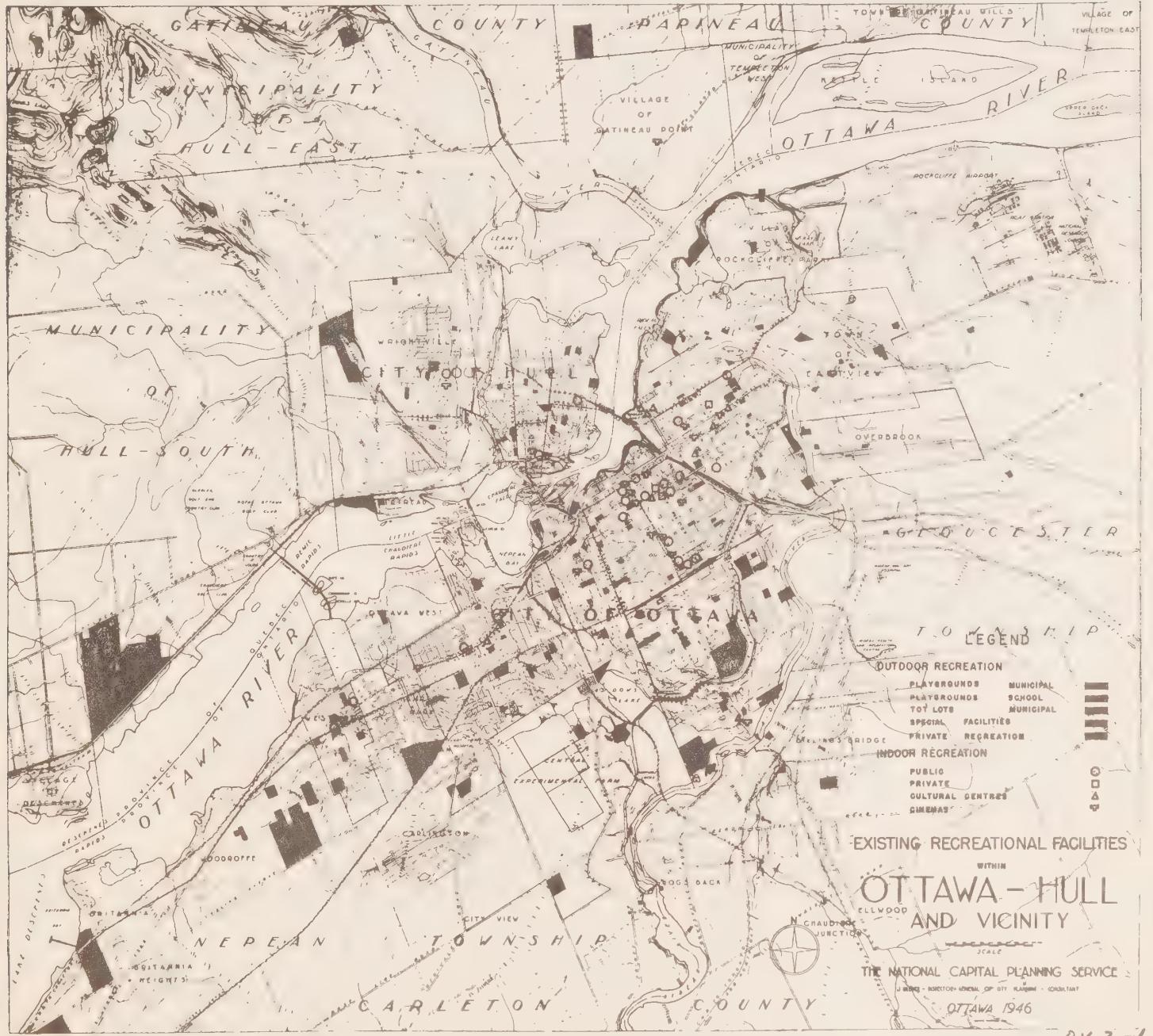


WATERWORKS SYSTEM

ILLUSTRATION 30



# RECREATION - SPORTS - OPEN SPACES



EXISTING RECREATIONAL FACILITIES



situated between Hull and Aylmer, two in the Ottawa area, one in Hull (Glenlea), one in the Gatineau Valley and one in the Town of Gatineau contribute to the charm of the cities' environments. Some additional golf facilities ought to be reserved in the northeastern and southeastern areas, where further urban development is expected.

Nautical sports could also be more largely developed. The Britannia Boat Club is the only one of sufficient importance in the western part of the region, where the Ottawa River forms a splendid lake for yachting and boating. Nautical sports should be rehabilitated on the eastern part, from Nepean Point down stream. The present facilities afforded by the Ottawa Rowing and New Edinburgh Clubs are inadequate.

Gatineau Park offers inexhaustible opportunities for sport enjoyment, in summer and winter.

### *Public Open Spaces*

The present open space acreage, especially in Ottawa, is a substantial beginning, but, despite the remarkable accomplishments of the Federal District Commission, the ribbon parks of Ottawa, the contemplated improvements of the banks of Rideau River and Ottawa River, and the gradual increase of Gatineau Park, the total acreage open spaces in the Capital Region, according to the following table, is only of 869 acres of urban parks. For the present urban population of 238,000, this only amounts to 3.65 acres per 1,000 persons.

### *Urban Parks*

Ottawa public gardens:

Rockcliffe Park.....	70	acres
Central Park (Clemow Ave.).....	16	"
Brewer Park (End of Bronson Ave.).....	39	"
Commissioner Park (Dow's Lake).....	4	"
Green Island Park (Mouth of Rideau R.).....	6	"
Nepean Point and Major's Hill Park.....	21	"
McDonald Park (Charlotte St.).....	7	"
Anglesea Square (York St.).....	3	"
Strathecona Park (Range Road).....	8	
St. Luke's Park (Frank St.).....	1.5	"
Minto Park (Elgin St.).....	1.5	"
Dundonald Park (Somerset St.).....	2	
Plouffe Park (Preston St.).....	4	"
McNab Park (Gladstone Ave.).....	3	"
Reid Farm Park (Sherwood Drive).....	6	"
Ballyntine Park (Main St., Ottawa East).....	1	"
<hr/>		
	193	acres
Carried Forward.....		193 acres

	Brought Forward.....	193	acres
Hull Public Gardens:			
Fontaine Park (Papineau St.).....	4	acres	
Sainte-Marie Park (Saint-Rédempteur St.).....	1.5	"	
Laroeque Park (Brodeur St.).....	2	"	
St. John Park (Montcalm St.).....	2	"	
Moussette Park (Val Tetreau).....	17	"	
	26.5	"	
Parks under the control of the F.D.C.....	590	"	616.5
			"
Total.....			809.5
Experimental Farm arboretum.....			61
			"
Total of gardens and parks.....			870.5
Forest reservations (Gatineau Park, south of Kingsmere).....			5,606
			"
Total.....	22	miles	6,476.5
Parkways (F.D.C. driveway system).....			"
<i>Physical Education—</i>			
Urban playgrounds.....	394	acres	
School playgrounds.....	145	"	
			"
Total.....	539	"	

In general, residential areas are well planted; street boundaries and private grounds are covered with trees. Public gardens are too irregularly provided to allow of their full enjoyment by the public; distances between homes and public gardens or city parks are, with few exceptions, too great.

The organic park system, a network of green throughout the entire urban area, has to be established, *when many parts of the territory are still unbuilt, even undeveloped*, and when full advantage can be taken of lands unsuited for building purposes and their acquirement made at reasonable cost.

The modern principles of open space designing do not call for expensive landscape work, nor for the total use of the grounds as parks; schools, hospitals and buildings for community recreation ought to be located within the park reservations; also playgrounds, sports centres, churches and cemeteries. Under such principles, parks cease to be limited in their use as at present, and become *major factors of community life*.

We explain, in Part II, how the extension and systemization of the park system of the Capital area should be treated, from the city square, the public garden, the city park to the large forest or rural reservation, and how all parks should be, in principle, *bound together* by lines of green, parkways or natural green belts, of great variety of width and treatment. This ideal is not always possible, but countless realizations already accomplished in practice, and in some measure the work of the F.D.C. in Ottawa, prove that it is not a dream of irresponsible "planners".

## 12

### RECREATION AND TOURISM

We need not demonstrate the importance of tourism in the present and future prosperity of the Capital Region.

The success of tourism in such a wonderful setting is already a fact. It only requires, for its full development, *an organized system of circuits*, and a few road improvements, which we describe in Part II, chapter 8. It is also dealt with under protective measures for recreational and touristic facilities throughout the region, in Part II, chapter 9, on aesthetics.

## 13

### AESTHETICS

#### *Natural Assets and Commendable Achievements*

The National Capital Region, situated on both sides of the Ottawa River, is an harmonious blend of forests, farmlands and water, of which the Capital City is the center.

The flat lands on the Ontario side and the nonchalant courses of its rivers make, with its pastoral scenery, striking contrast with the Quebec side, its undulated hills riddled with lakes, traversed by turbulent streams and covered by thick growths of trees, of which the bulk is formed principally of maples, spruce, pines and groups of birches.

South of the Ottawa River, most of the land is occupied by farms and marsh-lands, interspersed by countless wooded areas, over which the pine or the elm tower majestically. The north fringe of the Ottawa River has the same characteristics, while the Gatineau Hills, have a reverse proportion of forest and farmlands. The picturesqueness of the Gatineau region has been made the subject of analysis in other chapters of this report. All of this land of low lying hills, multiple lakes, streams and small valleys, in which farms rest between its wooded slopes, has a hospitable character of amenity and charm, most of which is still unspoiled.

The inhabitants of the region have long been conscious of this beauty, and have tried to take full advantage of it for their own enjoyment, although sometimes the parcelling out of the land has been detrimental to its scenic aspects and to its accessibility to the public.

While it is not proposed to eliminate private ownership, it is suggested that the region be surveyed to ascertain to what extent these individual developments are detrimental to the public interest, and in what ways future developments should be subject to control.

Along the Ottawa River, and within the urban area, there is not enough accessibility for the public to its shores. The land is either privately owned and occupied for residential or industrial purposes, or it is still entirely undeveloped and difficult of access. Along the river shores in Ottawa and Hull, only a few

parks are opened to the public. Fortunately, the Federal District Commission has acquired additional land west of Cartier Park in Hull, and parallelling the Ottawa shoreline between Lazy Bay and Woodroffe, for park and parkway development.

The Gatineau River, which has many magnificent vistas, is difficult of access in many places because of land topography and private ownerships. When this accessibility is possible, reservations should be provided for public recreation and enjoyment.

The Rideau River has several beauty spots opened to the public, such as Hogs Back and Black Rapids, but those places are very limited, and do not provide facilities for proper enjoyment by the local citizens.

The Gatineau mountains and lakes, in part owned by the Federal District Commission, which has already executed valuable works of preservation and enhancement, likewise lacks adequate accessibility. Kingsmere Lake is entirely surrounded by privately owned grounds. The only road along Meach Lake is bordered by private cottages which very often mar the scenery and preclude travellers from finding a place of rest along its shores. Harrington Lake, which is approximately 15 miles from the Peace Tower, is entirely undeveloped and reserved for the exclusive enjoyment of two or three owners. The road traversing its shores is impassable for vehicles, and to reach Philippe Lake, from the central area, cars must make a detour of some 40 miles. As such conditions are decidedly inconvenient to the public, and, as this lake will undoubtedly be ultimately integrated in the park system, its natural scenic beauty should be made available under proper policies of preservation and enhancement.

Lapeche Lake and its region offer similar possibilities for the proper development of its natural assets, but McGregor and Saint-Pierre-de-Wakefield Lakes, though possessing equivalent scenic beauty, have, in places, lost much of their attractiveness through uncontrolled private developments.

The areas on each side of the Ottawa River, at the points where the Gatineau from the north, and the Rideau from the south reach its waters, are wonderfully endowed by nature. The strange horizontal stratas of grey rocks overhanging its south shore, its bushy banks, the foaming falls of the Rideau River, and the Gatineau rapids on the opposite shore, seem to conspire to make this nature spot an unforgettable composition, the rugged charm of which grips the onlooker and carries him back, in spite of the close proximity of the city, into a past seemingly filled with the calls of the early guides and the gleam of the campfires.

The attraction of the Capital lies in this grim and strongly conjuring character, which has not yet been divested of the charm of its large wooded vistas, its picturesque canals and falls, the grandeur of its monuments and parks.

The towers and gables of its public buildings give to it a picturesque and romantic skyline. The natural charm of its surroundings are skillfully enhanced by the number and the gracefulness of its aged elms and blue tinted evergreens, as well as by the exuberance of lawns and parks. A bird's-eye view of the city leaves the impression that it is wrapped in green.

### *Deficiencies*

But progress, through the harnessing of its natural forces, and the ill-considered use of the land, has somewhat begun to stifle and mar the scenery.

Across the river from the stately buildings of the nation are piles of unsightly and disorderly industrial materials, factories, railway sidings, warehouses, and chimney stacks spreading soot, smell and smoke. The beauty of the Chaudière Falls is hardly perceptible from portions of an antiquated bridge and roadway laboriously finding their way through this unsightly mass of structures. The hills and Parliament Buildings can only be seen occasionally through such environments.

Within the city and the surrounding municipalities, there are many planted streets, which enhance the residential districts, but there are also too many streets which have been denuded of this natural element. Such streets, by comparison, offer depressing aspects. Buildings bordering upon them, whatever be their particular architectural merits, seem to be disorderly, and clash with neighbouring structures. Houses often are too close to each other, and their individual designs, which may have merit when isolated, are shocking and unaesthetic.

Colours are used without any relation to the shades of the neighbouring structures, and the perspective of a street is often inharmonious in colours, forms and bulks, while trees might have given some degree of unity.

There has been no control of the design and location of public utilities except on Elgin Street from Laurier northerly and on Wellington Street from the Plaza to Bank Street.

In commercial and semi-commercial streets particularly, utilities have encroached to such an extent that, in instances, the street has become crowded to the limit by telephone, power, light and tram posts, and the sky can be seen only through a network of wires and transformers. Nothing is more depressing than the appearance of such streets, and nothing is so unworthy of the National Capital, particularly when this disorder is within a stone's throw of the Parliament Buildings.

No architectural control having been enforced on commercial streets, their appearance is deplorable. If passers-by raise their eyes above the fallacious brilliance of the show-windows, they will see an unbelievable heap of volumes, forms and colours, which have arisen without any regard to adjoining structures.

Lack of control has permitted the use of outdoor stairways and fire escapes, and incongruous commercial signs. Such conditions are common to most cities, it is true, but the Capital is the first city which should take appropriate action to stop those undesirable setbacks.

The nation is young and vigorous, its natural resources have to be exploited, its markets maintained and expanded, and it is only natural that some of the refining elements, which seem to have little to do with such materialistic aspirations, have been overlooked. But now Canada has reached her maturity and is becoming conscious and proud of her assets. Therefore, she is ready to revise and improve her ways of living and expanding, and in doing so is taking full cognizance of culture and art.

## REVIEW OF PREVIOUS TOWN PLANNING STUDIES

*The Todd Report on Parkway System, to the Ottawa Improvement Commission (1903)*

In the year 1903, the late Frederick G. Todd of Montreal, a noted Canadian landscape architect, was engaged by the Ottawa Improvement Commission to outline a comprehensive scheme of park and parkway development for the City of Ottawa and its environs. Though the scope of his report did not go beyond beautification, Mr. Todd expressed strongly for the first time the necessity of collecting all data necessary to make a comprehensive plan. His outlook on the subject was broad and tended to evolve a general scheme rather than attempt to go into details.

Remembering that the Report was written in 1903, the following quotation is indicative of this attitude:

“Ottawa is at present a manufacturing city of considerable importance, and is destined to become great in this respect, owing to its immense water power. The industries, however, should be so regulated that they will interfere as little as possible with the beauty of the city, for a Capital City belongs to a certain extent to the whole country, and should not be placed in such a position that any one man, or company of men, can have it in their power to seriously mar its beauty, and thus throw discredit on the nation. As a Capital City, the park and open spaces should be numerous, and ample boulevards and parkways should skirt the different waterways as well as connect the principal parks and the different public buildings . . . To preserve the great natural beauty of the city as a heritage for the Dominion of the future, and at the same time to allow of the development to the greatest possible extent of the magnificent industrial opportunities of Ottawa, presents a problem of such magnitude that to attempt to discuss it in this report would be practically impossible. It seems to me, however, that this question must be faced sooner or later, and these two important considerations which often conflict so seriously, made to work together for the future beauty and prosperity of the city, otherwise the industrial development of the city will be sacrificed to its aesthetic development, or what is probably of greater present danger, that much of the natural beauty of the city will be sacrificed to its industrial growth.”

He emphatically stressed the importance of having a general plan of the park and parkway system in the city and its environs, which would be the basis for extensive works over a number of years. This recommendation was not complied with and from the date of this report the Ottawa Improvement Commission had nothing upon which to base its activities except the general guidance provided by Mr. Todd, and in many instances his recommendations were not followed or received such an interpretation that the Federal District Commission had afterwards to devote much time and energy in rectifying the mistakes of its predecessor. Flower beds had to be removed from the driveways, concrete ponds demolished in Strathcona Park, and other similar works had to be undertaken

throughout the city. Time has aided in obliterating such scars by the weathering of concrete and the growth of trees and shrubs. Had Mr. Todd's recommendations been followed, all such duplications of costs would have been avoided.

It is a matter of regret that financial limitation, as well as the lack of a comprehensive plan, has precluded the implementation of many desirable and important specific recommendations contained within the report, the execution of which was then possible but has become now more difficult. Particularly to be regretted is the failure to implement its recommendations relative to the control of industrial development, an undertaking which, if then initiated, would have minimized or avoided much of the undesirable development now existing.

The Todd recommendations which have been adopted, or can still be made the subjects of consideration, may be listed under the following headings:

- Large Natural Parks or Reserves.
- Suburban Parks.
- Boulevards and Parkways.
- City Parks.

#### *1—Large Natural Parks or Reserves*

Two forest reserves were recommended by the author; one of 2,000 acres along the Gatineau River between Ironsides and Old Chelsea; the other on both sides of Meach Lake.

The first proposal is no longer feasible due to extensive cottage and agricultural developments. However, it is recommended that this area be included in the Controlled Rural Belt and be subject to special regulations, thus preserving the remnants of the forests to which Mr. Todd refers.

The acquisition of the West shore of Meach Lake has been undertaken by the Federal District Commission in 1945-48 as part of the development of Gatineau Park, which is treated as a forest reserve. The Federal District Commission has since extended the areas to be reserved for the Gatineau Park. The present report recommends still further extensions, especially on lands near the urban area, with the view of bringing the parkway to the doorstep of the Capital.

#### *2—Suburban Parks*

Mr. Todd suggested certain additions to Rockcliffe Park which were carried out by the Ottawa Improvement Commission, as well as the inclusion of the shores of Hemlock or Mackay Lake in this scheme. The inclusion of the East shore of the lake within the park system is strongly recommended; on the West side, the public has been denied access to the lake by the extensive building of private homes.

Mr. Todd suggested that a park be located along the South banks of the Ottawa River between the Remic and Little Chaudière Rapids. In 1947 land along this shore was acquired by the Federal District Commission. This land still lends itself to the creation of a park and parkway system, but in view of its large surface and proximity to the urban center, it is suggested that certain areas be reserved for public buildings or other specific uses.

Hurdman's Bridge was recommended by Mr. Todd as a suitable area for a large urban park (40-45 acres). The area suggested is along the river between the bridges and the gas works. A park and playgrounds, related directly to major improvements in this vicinity, are now recommended in the same area. Their execution is still possible due to the unsuitability of this ground for other purposes.

To round out the park system, the author strongly suggested a park along the Ottawa River between the Gatineau River and Brewery Creek. This land has been acquired by the Federal District Commission in recent years but has not been developed. Extension of the park system is recommended eastward, on low grounds not suitable for other purposes, across the river from Rockcliffe.

### 3—Boulevards and Parkways

To avoid confusion, Mr. Todd made the following definitions:

*Boulevard*—a straight or curving avenue adapted for pleasure driving usually planted on each side and often down the centre with rows of shade trees.

*Parkway*—winding pleasure drive laid out with a narrow strip of land reserved on either side and treated in a park like manner.

He suggested that a boulevard be constructed from Rideau Hall to Parliament Hill along the banks of the Ottawa River. Lady Grey Drive was built in accordance with this recommendation by the Ottawa Improvement Commission. The reasons giving rise to this recommendation do not now hold the same importance. We are of the opinion that Sussex Street, widened and properly treated with reservation of land on the river side, could make an equally good approach to Rideau Hall. To terminate this scheme he suggested an imposing traffic circle at the junction of Mackenzie Avenue and the Plaza. Had this circle been completed, today's traffic bottleneck at this point would not have developed. A similar development in this area to control the traffic is still recommended as a temporary solution, until the completion of the final scheme, which provides for a modern system of traffic control, including half a clover leaf element.

A parkway was visualized by Mr. Todd to connect the west end of the Experimental Farm with the Ottawa River in the vicinity of Island Park Drive. However, Mr. Todd recommended that this parkway follow the high ground so that pleasant vistas could be opened up. The location of Island Park Drive is such that very little scenic beauty is available to the user as it is on the low ground. A scenic driveway, inspired by the same principles, can still be created on high grounds south of Carling and west of Merivale Road.

He further suggested that this parkway be connected eastward along the Ottawa River and ultimately, through the Broad Street railway area, to Wellington Street. This recommendation, which was never lost sight of by the Federal District Commission, is incorporated in the present report.

Mr. Todd recommended that the banks of the Rideau River be developed as a parkway with a wide right-of-way to preserve its natural beauty. He recommended that this drive should start at Cumming's Bridge and ultimately join the Rideau Canal drive in the vicinity of Bronson Avenue. Much of this develop-

ment is still feasible on the south side of the Rideau River and land was acquired by the Federal District Commission in 1947 for this purpose. This river shore park and parkway system can still be extended further. The Federal District Commission is taking steps now with this objective in mind.

As part of the development of the forest reserves along the Gatineau River, Mr. Todd recommended that a parkway be constructed through the heart of Hull. "so that this first part of the drive from the Parliament Buildings or from the centre of the city to these reserves may be more agreeable than at present." The importance of beautiful drives connecting the Gatineau Hills with the centre of the built-up area is strongly emphasized, and recommendations are made in this connection covering the exact locations of parkways and boulevards and the treatment of same.

#### 4—*City Parks*

Mr. Todd considered that Patterson's Creek could be made one of the most beautiful parks in the vicinity of Ottawa and made recommendations regarding its boundaries and the type of development required. This recommendation has not been carried out with the simplicity indicated in the Todd Report, but this park should be extended when opportunity permits.

### ***REPORT OF THE FEDERAL PLAN COMMISSION***

*(Holt Commission)*  
*(1915)*

This commission, under the Chairmanship of Sir Herbert S. Holt, and generally referred to as the "Holt Commission", was appointed under Order in Council dated September 8, 1913, and was a joint undertaking on the part of the Federal Government and the *Cities of Ottawa and Hull*.

The comprehensive recommendations contained within the report are dealt with in detail but special attention is drawn to the following features, i.e.:

1. That improvements in the area of the Capital at Ottawa and Hull should not be attempted without first establishing a Federal District and securing for the Federal authority some control of local government.
2. That the pivot, on which hinged the success or failure in carrying out any comprehensive plan, lay in the proper solution of steam railway transportation.
3. That the extension and development of Government Buildings should be carried out on a comprehensive plan.
4. That there should be proper control of residential and manufacturing districts by enforcing building restrictions.
5. That there be developed a broad and forceful policy of park lands.

As fundamental to the solution of the railway problem, the Commission recommended control by a single authority of all railway trackage and terminals. The general scheme of railway revision recommended was the creation of a union passenger terminal on the site of the existing passenger station (since carried out), the development and extension respectively of two general freight areas—one east of the Rideau Canal and south of Laurier Avenue, and one at Broad Street, and the provision of a tunnel paralleling Wellington Street and connecting the union passenger terminal and the eastern freight area with the Broad Street freight area, thus providing through traffic facilities for all passenger and local freight trains between the easterly and westerly lines approaching the City. Under this proposal there was envisioned the abandonment of portions of the then existing Canadian Northern Railway and the Canadian National Railways to form a common approach east of Hurdman's Bridge with the Canadian Pacific and Ottawa and New York Central lines. Similar abandonments were recommended in the cases of the cross-town line of the Canadian National westerly to Graham's Bay, the Prescott Branch and Sussex Street Branch of the Canadian Pacific, the Chaudière Branch of the Canadian National, and North Shore lines of the Canadian Pacific Railway in the Province of Quebec.

Commensurate with railway revisions, certain areas were recommended for the segregation of heavy industries, i.e. in Ottawa, one to the east at the junctions of the railway approaches and one on the west at the Chaudière Falls and extending westerly along the south shore of the Ottawa River; and in Hull, one at the Chaudière Falls and one in the vicinity of Leamy Lake.

To alleviate growing traffic congestion and to improve street connections between the business areas east and west of the Rideau Canal, it was recommended that a *diagonal street on a viaduct over the railway and canal* be constructed from the intersection of Laurier Avenue and Elgin Street to the intersection of Rideau and Dalhousie Streets. Further to this end and in the desirability to free Wellington Street from heavy truck traffic, the Holt Report suggested that Laurier Avenue be developed as the main east and west traffic artery, a project which involved the widening of this avenue throughout its entire length and the provision of a tunnel through the cliff at its westerly extremity connecting Laurier Avenue west with Albert Street. In addition, it was recommended that Somerset Street be developed as a cross-town artery and that it be widened from Bronson Avenue westerly to Wellington, also that Elgin Street, Bank Street and Bronson Avenue be widened for through artery purposes.

Additional recommendations covering the extension and widening of a number of existing streets within the cities of Ottawa and Hull were made to the end that traffic circulation might be facilitated.

In Ottawa, it was suggested that there be extended George Street to St. Patrick Street, Lisgar Road from Dufferin to Springfield Roads, Chapel Street to Nicholas Street and Echo Drive south to and across the Rideau River, while it was envisioned to widen Dalhousie, Sussex, Main, Riverdale and Broad Streets for their entire lengths and Nicholas Street between Rideau Street and Laurier Avenue, Nicholas Street south of Gladstone Avenue, Gladstone Avenue from Nicholas Street to the

Rideau River, Wellington Street west of Bronson Avenue, Scott Street west of Wellington Street, Carruthers Avenue from the Ottawa River to Carling Avenue, and Carling Avenue from Bronson Avenue to Richmond Road.

In Hull, the widenings of Main, Hotel-de-Ville, Saint-Laurent Streets and Laurier Avenue were recommended.

Reference was made to the utilization of abandoned railway rights-of-way as highways, and to the necessity for the provision of connections with highways leading to Toronto, Montreal and other major cities, and detailed submissions relative to the essential factors involved in so doing were made available, as also were recommended highway widths.

Specifically the utilization of abandoned railway rights-of-way is referred to in two instances, i.e. a cross-town parkway replacing the Canadian National cross-town line, extending from the Rideau River to beyond the western limits of the City, and a parkway connecting the Experimental Farm with Wellington Street and the Ottawa River front and situated parallel to and west of Preston Street. Additional parkways recommended and forming part of the major traffic system were those along Green Creek from the Ottawa River to Walkley Road, a diagonal parkway running south-easterly from Deschênes Rapids to the Merivale Road and sweeping easterly to the Rideau River, and parkways beginning at Green Island at Sussex Street and extending along each side of the Rideau River into the open country at Hogsback. Further parkways parallelling the Ottawa River, Brewery Creek and the Gatineau River were the subjects of recommendation.

Extensive parks and playgrounds were recommended, including the acquirement of lands in the Laurentian Hills for a National Park, and the development of Dow's Lake and its adjacent lands as a recreational centre was strongly urged.

Any critical review of the Federal Plan Commission's Report of 1915 must necessarily be tempered by a recognition of those transitions which have occurred since the date of its preparation and which have definite bearing upon fundamentals affecting present day conditions. It is remarkable, however, that the authors made a very accurate estimate of the probable extension of the urban area and of its population for a period of thirty-five years, i.e., 250,000 inhabitants in 1950. The trend of population growth in the intervening years has proved the degree of accuracy attending the predictions of the experts in 1915.

The report's primary recognition that *steam railway revisions formed "the pivot on which hinged success or failure in carrying out any comprehensive plan"* was basically sound, although the degree to which such were envisioned was limited by conditions then existing but since intensified. The extraordinary effects of the general use of the automobile as a major factor in transportation, and their direct bearing on urban and interurban traffic, could not then be predicted. Could such have been foreseen, it is obvious that the principle of trackage eliminations and the adoption of rights-of-ways so released for arterial highway purposes would have been pursued further and certain major recommendations, contained within the report, if adopted, would have proved detrimental, and necessarily would have

demanded ultimate further revisions. This situation in all probability gave reason to the recommendations for the numerous street extensions and widenings outlined and for failure to recognize the detrimental factors attached to the perpetuation and extension of railway facilities in central city areas. The retention of the Union Station and the relocation and extension of the local freight yards immediately south of Laurier Avenue and extending east of the Canal to Waller Street, is an instance in point. Had this recommendation been consummated in actuality the resulting condition, without question, would have been detrimental rather than ameliorative.

Within limitations the report as at the date of its submission could have been acceptable, but in light of developments during the transitional period to date it obviously would have been, in many fundamental aspects, decidedly inadequate to meet present-day conditions.

Nevertheless, we consider the Holt Report to have been a progressive step toward the development of the National Capital, and in many respects, found it to be most helpful in the pursuit of our studies. In many instances, we have included within our report recommendations made in the Holt Report which were obviously desirable in their contributions to the betterment of traffic conditions, transportation and living, together with the enhancement of dignity and spaciousness within the Capital.

The incredible contribution of Canada toward the victorious conclusion of the second world war has been reflected in the rise of the Canadian Confederation to the rank of one of the greatest nations of the world. The function of its Capital has, therefore, become more complex and incomparably greater than what it was in 1915 or even in 1938-39, when we were initially called by the Federal Government to advise on the future development of government owned grounds in the Capital.

This new situation requires different and broader solutions than what would have appeared to be adequate in 1915 or even in 1938-39.

The long range work of planning must necessarily be the result of repeated efforts and every step towards the final objective has its value. The Holt Report is, in many respects, the foundation of our present work as, we trust, our present recommendations will be to those who follow us, in their adaptation to unforeseen and new conditions which will inevitably arise in the future.

*The Cauchon Report*  
(1922)

A further plan and report was prepared by the late Noulan Cauchon, planning consultant to the City of Ottawa until his death in 1935, and one of the best known of Canadian town planners. While this report was unofficial, in the sense that he was not retained by the Government to execute it, it comprises the co-ordination of extensive studies of the Capital area pursued by the author over a period of some fifteen years.

The Cauchon Report was formulated and released in April, 1922. It suggested the creation of a Federal District on a basis which would overcome previous objections to such a project, by providing for the control of physical features and public utilities within Ottawa, Hull and their environs, and leaving all other provincial and municipal prerogatives undisturbed.

Previous proposals had always taken for granted that the creation of a Federal District involved legislative union between the two cities of Ottawa in Ontario, and Hull in Quebec, under the control of the Dominion Government, and implied necessity for the disfranchisement of the citizens on both sides of the Provincial boundary, and the complete loss of municipal autonomy.

The Cauchon proposal submitted that there be created a Federal District Commission empowered by enactment of the Dominion Parliament to control and develop the physical features and public services of a large area embracing the cities of Ottawa, Hull and environs. Under this legislation it was proposed that the municipalities be given the power to transfer voluntarily to the Federal District Commission the exercise of such of their powers, granted under their respective provincial acts, as they might see fit. Under such proposals it was not the intention to involve the immediate appropriation of large sums of money by the Dominion Government, but rather that there be created a body of experts to plan and guide development; to see that what was done was done right and as an integral part of a larger plan, which would be considered and developed when circumstances required and permitted. Each feature of the plan would only be undertaken on its own merits and as necessity justified its inception.

The proposed reorganization of railway trackage and terminals was designed to eliminate unnecessary duplications of trackage, maintenance and operational expense, and included the elimination of all level crossings on running trackage—industrial spurs apart. The railway revision plan retained the present central station but provided through-traffic facilities by a tunnel parallelling Wellington Street and connecting with the existing Chaudière trackage which, by the provision of a new crossing of the Ottawa River, provided the main and sole inter-provincial railroad communication. This, coupled with a total revision of trackage within the City of Hull released such rights-of-way and the Interprovincial and Prince of Wales Bridges solely for highway purposes. Similarly, the provision of a joint short line westerly, coupled with the relocation of make-up yards east of Elwood Junction, permitted the amalgamation of all main lines approaching Ottawa to operate through east-west traffic under union terminal auspices, and of the abandonment of existing east-west C.P.R. (South Shore) and C.N.R. (Cross Town) trackage for highway purposes.

Railroad rights-of-way radial to the City, which became released from railway use, were to be converted into fast radial highways, the embankments of which were to be broadened out to accommodate electric trackage in the centre, with

motor roads alongside; existing grade separations were to be retained and added to, whilst the rights-of-way were to be maintained free of access except approximately every half mile to provide for rapid communications within the city. These rapid facilities were predicated on the extension of time-distances, thereby increasing the availability of land areas suitable for residential development. In principle such fast radial highways were to be extended into the surrounding country parallelling existing railroads, thus taking advantage of existing and future grade separations, relieved from interruptions, delays and congestions of local traffic, and permitting of sound organic function.

To provide additional much needed electric power for industrial purposes, it was proposed to erect a new dam at the Little Chaudière. By raising the water at the Little Chaudière, the water level of Lake Deschênes would have been brought into the heart of the cities of Hull and Ottawa, and the lake thus extended would have become a suburb of the Capital, navigable from shore to shore up to Chats Falls. The proposed dam was destined to accommodate railroad and radial trackage as well as highway right-of-way.

The spur of the Laurentian Hills which reaches down to the shore of the Ottawa River, at the point of the proposed power dam, it was recommended, should be made a National Park beginning from the highway crossing the dam and thence widening out as it extends northerly, including all the hilly ground reaching further and further into the north as time and circumstance permitted.

Besides the Mountain Park it was recommended that the Capital District be endowed with an extensive system of inner parks and parkways to assure health and amenity to the increasing population. The larger of such internal areas were to be determined on the principle that land which was too low or expensive for natural sewerage should be reclaimed for public use and land which was too high to reach by normal average city water service pressure should be withheld from settlement and diverted to public park use on the ground of economy in providing such services.

A unique proposal contained within the Cauchon report was the Ottawa-Cardinal Canal as an all Canadian alternative to the St. Lawrence International Deep Waterway, bringing the level of Lake Ontario to Ottawa. The alignment of this canal to the St. Lawrence River would have coincided with the alignment of the then proposed irrigation main ditch to utilize the waters of the Rideau watershed. This latter scheme involved making an artificial reservoir of the Mer Bleue for irrigation storage purposes.

The railroad reorganization and highway system were stressed as vital to the efficient determination of zoning dispositions for land use and to the obviation of congestion, the stabilization of values and the assurance of amenities of civic life.

Tentative and alternative schemes were studied for dealing with the Rideau Canal within and without the city and for the distribution of irrigation from the Rideau River throughout much of the district to increase fertility and insure crops, to render gardens and small holdings tenable and profitable adjacent to the city and its markets.

The Rideau River was determined in general as the median line of the future between residential areas on the west and industrial activities on the east of it. Prevailing winds are from the west and north-west, insuring the drifting away from residential and business sections and towards the open country of all objectionable smoke, dust and odors. A substantial section of this open country is a peat bog and sparse of population.

Large industrial areas in this vicinity and contiguous to proposed railroad yards were defined, as also were large areas entirely east of the City on the Ottawa River, both on the Ontario and Quebec sides.

The Cauchon report embodies much in the way of recommendations which are fundamental to the basic consideration of the planning of the Capital Area and which in large measure have fallen within the purview of the present report.

While only a period of some seven years intervened between the dates of the Holt Commission and the Cauchon reports, it is a matter of interest to query just to what degree and in what particulars the transition of factors affecting urban conditions within that period had bearing upon the obviously differing approach to the solutions recommended.

*First Studies by J. Gréber*  
(1938-39)

The Federal Government retained my services in 1938 and 1939 as consultant for the development of government owned grounds, including the execution of the Confederation Plaza and widening of Elgin Street.

This was a local operation, for which detailed plans were prepared, but incompletely carried out owing to the declaration of war in September, 1939.

The work extended from Nepean Point to the whole of Parliament Hill, and consisted of the layout of the landscape treatment of the grounds and approaches to the Government Buildings, of the Plaza, as the site for the War Memorial, and of the widening of Elgin Street. In order to study the relation of such work to other parts of the city, a tentative plan of the City of Ottawa was submitted with a report, by which the advantage of a comprehensive plan of the Capital was pointed out, for the sake of co-ordination and economy in the carrying out of future local developments. But such plan, due to lack of an extensive survey of present conditions and future needs, was only indicative.

The plan for Confederation Plaza was carried out only insofar as the War Memorial terrace, which had to be completed for the Royal visit in May, 1939. The approach from the east, essential to improve traffic conditions at that congested point, could not be commenced owing to the outbreak of war, and even the final grade of Elgin Street could not be executed. The completion of the work is, therefore, included in our present proposals. (See Part II.)

## THE FEDERAL DISTRICT COMMISSION

In 1893, Sir Wilfrid Laurier, Prime Minister of Canada, expressed a desire to see Ottawa become "the Washington of the North" and acknowledged the Federal Government's responsibilities in the beautification of the Capital City of Canada. Six years later the initial step towards the realization of this hope was taken in the setting up of the Ottawa Improvement Commission, which was to co-operate with the Corporation of the City of Ottawa in improving and beautifying the city. By the terms of the Act passed by Parliament, it was authorized to "purchase, acquire and hold real estate in the City of Ottawa and the vicinity thereof, for the purpose of public parks or squares, streets, avenues, drives, or thoroughfares, and for their maintenance".

In the carrying out of this Parliamentary mandate, the Ottawa Improvement Commission acquired and developed park areas and driveways along the Ottawa River and the Rideau Canal. In addition, it developed Monkland and Clemow Avenues to form links in the driveway system.

In 1927, the Ottawa Improvement Commission was reorganized and renamed the Federal District Commission by Act of Parliament, and at that time permission was granted to extend its operations to the hitherto excluded Hull area.

Since its inception, the Federal District Commission has carried out park works of vast scope, such as the extension of the driveway system, the improvement of Dow's Lake, the construction in co-operation with the City of Ottawa of Confederation Place, the construction of the Champlain Bridges and their island parks, as well as the construction of Jacques-Cartier, Brébeuf and Flora Parks in Quebec. It initiated the acquisition and development of the Gatineau Park. The Commission also assumed responsibility for the maintenance of all Federal Government grounds.

The importance of the Federal District Commission to the welfare of the people of the urban area is indicated by the fact that the bulk of the parks owned by the cities of Ottawa and Hull are maintained by the Commission, a consequent relief to civic budgets. It also materially assists traffic conditions in the area through its responsibility for snow removal and maintenance on the driveways, which are the only satisfactory limited access arterial road system in the urbanized area.

In 1946, by amendments to the Federal District Commission Act, Parliament gave to the Commission authority to co-ordinate construction and development work on Government owned lands within the boundaries of the National Capital Region. It was also designated as the governmental agency responsible to Parliament for the preparation of plans for the National Capital. Thus, after forty-

seven years, authority was vested in the Commission to make comprehensive study of and execute developments, with a view to improving the general welfare of the people, rather than to superficially embellish the urban area.

## 16

### CONCLUSIONS OF THE GENERAL SURVEY

One word should sum up the conclusions of this survey: *OPTIMISM*—highly justified by natural conditions, unspoiled spaces, unlimited forest reservations and a harmonious balance of urban, rural and industrial life—in other words, by a natural setting which offers great possibilities for corrective and extensive planning, and equally justified by the energy of the inhabitants, who by their genius and courage have, in less than a century, made the young Capital one of the most efficient, prosperous and admired cities in the world. Such conclusion is not a mere compliment; it is the result of two years of statistical research, surveys, inspections and topographical and social enquiries, which gave us a complete diagnosis, and, we dare say, a most favourable one, as basic and sure guidance for the preparation of the proposals contained in the following Part of this Report.



# JUSTIFICATION OF PROPOSALS

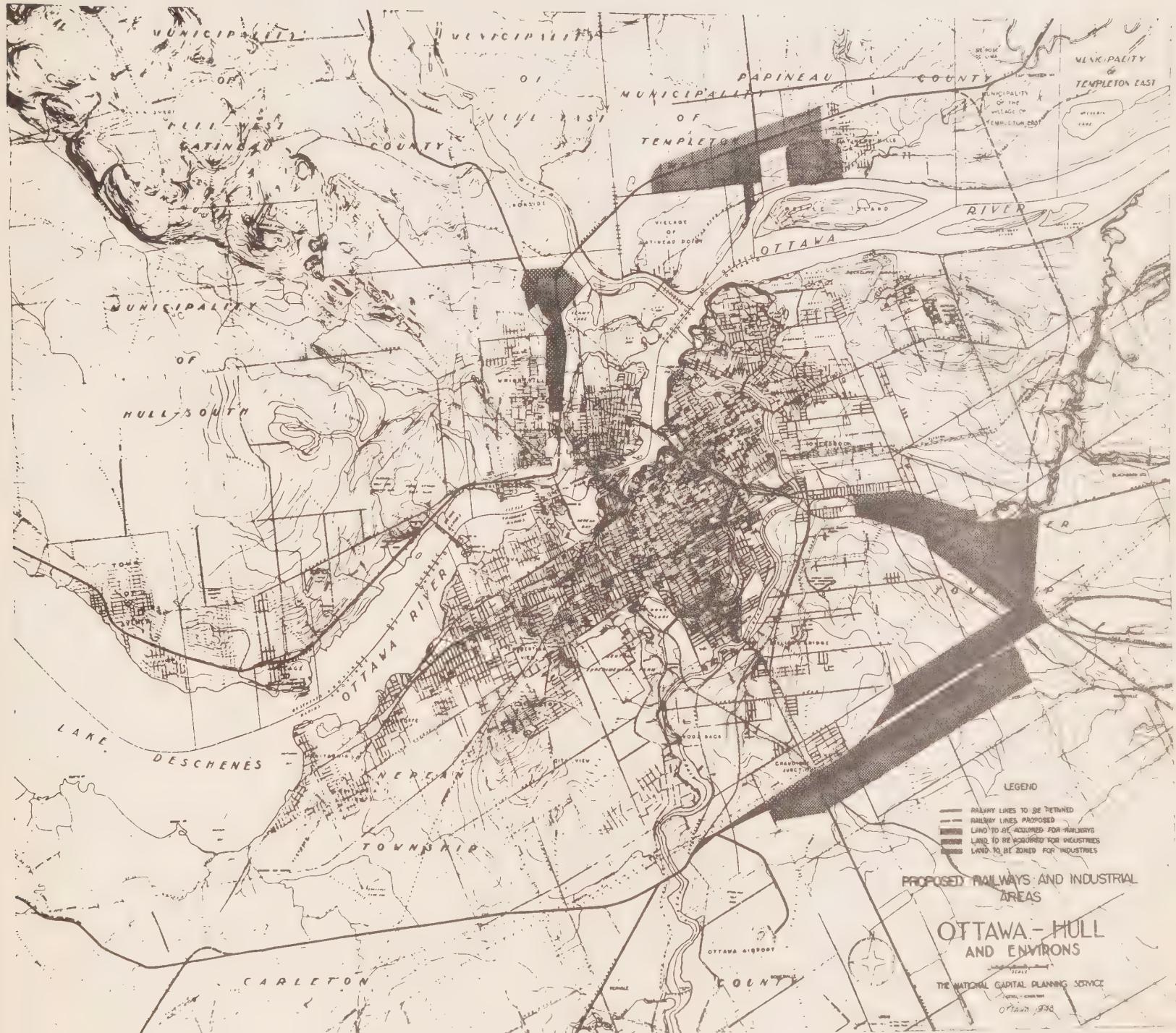


NATIONAL CAPITAL MASTER PLAN

ILLUSTRATION 32



# FUNDAMENTAL DEDUCTION OF THE GENERAL SURVEY; RELOCATION OF RAILWAY FACILITIES AND HEAVY INDUSTRY



PROPOSED RAILWAYS AND INDUSTRIAL AREAS



## PART II

# JUSTIFICATION OF PROPOSALS

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### 1

#### SCOPE OF THE PROJECT

##### *“The Plan of the National Capital”*

**Plate 31**

In compliance with the scope of the task entrusted to us, and in light of basic data derived from investigations and surveys made, we have conducted our studies with the sole object of reaching conclusions in keeping with present and estimated requirements based on existing tendencies.

We have avoided theoretical solutions, predicated perhaps on desirable ideals, but indifferent to the main factor of realization—*economics*. We have retained within our recommendations only such feasible operations as have withstood full investigation as to their reasonable chances of being soon or ultimately implemented. This prudent principle does not preclude the fulfilment of far-reaching plans, it requires only the right appreciation of the *time-element*, too often forgotten in town planning matters.

### 2

#### FUNDAMENTAL DEDUCTION OF THE GENERAL SURVEY

##### *Relocation of Railway Facilities and Heavy Industries*

**Plate 24**

This is the *key* of the whole plan; it was therefore the basis of our first sketches. The National Capital Planning Committee has given its full approval and co-operation to this manner of approaching the Capital Plan problem.

The sub-committee on railways, created at the beginning of our work, made extensive studies in close collaboration with our Service. Nine successive and different possibilities were investigated in common, and final approval given to the most ambitious, but, as usually, the most efficient solution. Its endorsement by the National Capital Planning Committee clearly demonstrates the value of this daring but urgent operation. The remodelling of railroad facilities has therefore become the *framework of the Master Plan*.

It consists of a series of gradual and co-ordinated operations, aimed at the elimination of all railroad interference in the present life and in the future development of the urban centre of the Capital Region. To attain this objective without disturbing or upsetting the present railroad and industrial activities, without endangering the attainment of their methodical relocation by being subject to undesirable land speculations, the Government, according to the recommendations of the National Capital Planning Committee, and along the lines of the overall plan, has already decided upon the acquisition of the most needed grounds, while other parts of these grounds may be made available for industrial and railway purposes by municipal zoning.

Therefore, the equipment for new railway and industrial facilities has been made possible, prior to any removal of existing railway lines or industrial establishments.

The main objectives are:

- (1) The creation of a belt line, connecting the north shore C.P.R. line from Montreal to Hull with all the lines approaching the city of Ottawa on the south from Montreal (C.P.R. and C.N.R.), from the United States (N.Y. Central), from Prescott (C.P.R.), from Kingston (C.N.R.), from Toronto (C.N.R. and C.P.R.), and from North Bay (C.N.R.).

A bridge (railway and highway) will connect the north shore line at Templeton in Quebec, with the Ontario shore, west of Green Creek, over Duck Island. The new belt line will join and connect all existing lines at the Prescott line, south of Walkley Road. Inside of the new belt, all existing lines within the urban area will be gradually eliminated, i.e.:

Cross-town line (C.N.R.), Sussex line (C.P.R.), Prescott line (C.P.R.) between Nepean Bay and the new belt, Carleton Place line between Nepean Bay and intersection with C.N.R. North Bay line, C.P.R. and C.N.R. lines leading from Hurdman's Bridge to the present Union Station.

- (2) Reconstruction of the passenger station parallel to the new belt line, and the equipment for make-up yards, freight yards and industrial sidings will take place on grounds especially acquired or zoned for these purposes, three miles long and almost one mile wide.

The new central freight terminal would be located about one-half mile east from Hurdman's Bridge. Grounds are also acquired or zoned to accommodate the terminal, its yards, industries, warehouses, and workshops, extending for a length of about two miles and a half. The new passenger station would be about four and three-tenths miles from Confederation Plaza, but connected to the various parts of the city by wide and direct boulevards, so laid out that a constant flow of traffic can be maintained, with adequate surface connections and grade-separated crossings.

The main approach from the station to Confederation Plaza would be formed by a double drive expressway two miles long from the new Union Station to the Central Freight Terminal, and continued by a branch of similar cross-section to Hurdman's Bridge, thence by a Mall of monumental scale distributing the traffic in three directions into the city: (a) a driveway following the Rideau Canal, on the east side, and parallelling the existing F.D.C. Driveway, leading to Confederation Plaza and to Sussex Street at a lower level, thus avoiding all crossing points; (b) King Edward Avenue to the north; and (c) the cross-town parkway to the west.

(3) Direct connection with Hull would be maintained from Sussex Street by a new bridge replacing the Interprovincial Bridge, and leading to the new Civic Centre and the new Station in Hull by a wide boulevard. The new Station in Hull would comprise also a freight terminal, connected with the industrial area provided for on grounds specially acquired and zoned for that purpose. The railway lines on the Quebec side remain practically unchanged, except for the C.P.R. connection to the Interprovincial Bridge, and minor improvements to the Maniwaki and Waltham lines. Such an extensive improvement of railway lines approaching the Capital has three major advantages:

1. *Simplification of railway operations*, particularly the handling of trans-continental trains, and the concentration of all operations at one point instead of long uneconomical movements of trains and engines as at present. Substantial saving of time, fuel and labour.

2. On the rights-of-way of abandoned lines, a *co-ordinated system of main arteries* would be established:

- (a) A cross-town parkway from the entrance of the new Montreal Road at Hurdman's Bridge to Graham Bay (East-West central parkway).
- (b) North-South cross-town boulevard from new south entrance of city to Wellington and Scott Streets.
- (c) Western boulevard (Scott Street extension) to Britannia.
- (d) Circular boulevard from Sussex Street (through Eastview) to south entrance of Ottawa.
- (e) Mall and grade-separated driveways from Hurdman's Bridge to Confederation Plaza.
- (f) New central boulevard in Hull from new bridge to the new Hull Station.
- (g) A new entrance from the east (new branch of Montreal Road) will, in part, be established on the abandoned right-of-way of the old Canadian Northern Railway to Hurdman's Bridge.

3. *Enhancement of land values* in all urban areas affected by this extensive operation. Most of the grounds now crossed by the railway lines to be eliminated, have resulting depressed land values, due to numerous grade crossings, poor access, dead end streets and obsolete constructions. The elimination of those nuisances

by the creation of modern thoroughfares, some of them of the parkway type, will result in a considerable increase of land value, large acreages of territory being made available for all classes of modern residential or commercial units, according to the location.

Heavy industries are also given favourable opportunities for progressive expansion along appropriate and well-equipped railroad facilities.

Another factor, perhaps the most important one in the whole plan of railway revisions, is *the possibility of its gradual execution*, leaving existing railway operations unchanged, while the new belt line is being constructed, the industrial sites equipped, the elimination of obsolete lines being made wherever and whenever opportune.

The whole work can be organized on a progressive schedule, in harmony with the requirements of the railway companies and industrial establishments.

## 3

### CIRCULATION

#### Plate 27

As a result of the *revision of the railway lines* within the urban area, *the road system* within and approaching the Capital can benefit from the following improvements

Plan No. 34 shows the new proposed highway system, which includes *inter-urban arteries, main arteries, secondary arteries and parkways*.

#### *Interurban Arteries*

In the Province of Quebec:

1. Route No. 8 from Montreal would be diverted to the north west, after passing Lac Beauchamp in Templeton, to cross the C.P.R. line, and follow it in the direction of Pointe-Gatineau, to a point where it divides into two branches: (a) To the south, in direction of the existing bridge over the Gatineau River, and to Hull by a new bridge, directly north of Laurier Avenue, from where it continues toward the Chaudière Bridge. The Aylmer Road would be by-passed between Chaudière Bridge and Val-Tétreau, and thence continue on its present right-of-way, double-laned to a point east of the Ottawa Country Club, the north lane one-way to the west, and the existing road becoming one-way to the east. From that point, the present road would continue to Aylmer, and a new northwest diversion, extending to and continued along the existing O'Connell Road widened, would by-pass Aylmer and join Route 8 (Eardley Road) to Pembroke.

The diversion at Templeton would permit the development of industries, similar to the International Paper Company, from the river front to the railway line without interruption by grade crossings necessary for the industrial sidings.

(b) From Pointe-Gatineau, a second branch of Route 8 would extend in a westerly direction across the Gatineau River (new bridge), to join and follow the Chelsea Road in a southwesterly direction, and thus reach the Mine Road north

# CIRCULATION



PROPOSED HIGHWAY SYSTEM



of its intersection with the Mountain Road, again uniting with Route 8 at St. Joseph Boulevard and crossing the Aylmer Road to reach a future bridge over Nepean Bay, to connect with the system of Ontario Highways.

The parts of the existing highway which cease to be used as interurban arteries will become local roads serving Templeton, Gatineau, Pointe-Gatineau, Hull and Aylmer.

In the Province of Ontario:

2. Route 17 from Montreal through Hawkesbury, after crossing Green Creek, would be diverted toward Hurdman's Bridge, by using in part the right-of-way of the abandoned Canadian Northern line, and would enter the city of Ottawa by a Mall, extending between the Rideau River and the Canal, and from thence connect, over the Canal near Pretoria Bridge, with the new cross-town parkway replacing the cross-town line, as far as its intersection with the No. 17 North Bay Highway. The intersection of this new interurban artery with the Richmond Road (Route 15) will be treated as a grade separation crossing. Thus the present routing through Ottawa of Highway 17, via Eastview, Rideau Street and Wellington Street would be limited to its function as a main artery, for intense local traffic, and would not continue to be overloaded by interurban traffic.

Route 15 should be improved from Bells Corners southerly by using part of the present Richmond Road to a certain point and then by a new diversion to Stanley Corners, thus avoiding the present dangerous under-pass west of Bells Corners and avoiding the existing level crossing at Stittsville.

3. Route 31 (Metcalfe Road) is the shortest highway to the United States boundary (Morrisburg ferry to Waddington) and enters Ottawa through a ribbon development south of Billing's Bridge and by Bank Street, which is a retail commercial street. Therefore a new south entrance to the city is recommended at the intersection of the C.P.R. line with Heron Road. At this point a large distributing star-shaped plaza would form the end of a wide boulevard leading toward the city at elevation 380 near Bowesville Road, from which the whole silhouette of Parliament Hill can be viewed. This boulevard would replace the winding section of the Metcalfe Road, and connect with the existing road near South Gloucester, by the partial use of existing roads to be widened.

4. Route 16 (Prescott Highway). This is a most picturesque road, but is inadequate for future traffic, owing to its many sharp turns and its unsatisfactory approach to the city at Preston Street. We propose to provide for its improvement by shortening the distance between Carsonby and Manotick by an almost direct cut-off, diverting the traffic across the Rideau River via the Manotick bridge to near Manotick Station, and then follow existing but improved roads to join the new Metcalfe Road and the entrance boulevard to Ottawa.

5. The Russell Road, at present a main local road, should be in part relocated and transformed into an *interurban artery*, by using it from Ottawa (the new eastern entrance to the Mall at Hurdman's Bridge) to Ramsayville, from where a new highway should be extended to Cornwall on the U.S.-Canadian boundary.

The increasing flow of tourist traffic from the United States justifies this additional highway particularly on account of the facility of the Cornwall bridge.

### *Main Arteries*

In the Province of Quebec:

The Chelsea or Maniwaki Road carries a seasonal dense traffic, due to the attractions of the Gatineau valley. It has been improved already, especially near Wakefield, but its irregular profile and many turns give it the definite character of a touristic and scenic road. The area ought to be served by a more rapid transit highway, connecting with Hull and Route 8, by two branches: one to Laurier Avenue, reaching diagonally the improved Mine Road, the other using the second branch of Route 8 from the Aylmer Road to the south end of Mine Road. St. Joseph Boulevard, traversing the urban area of Hull South of the Chelsea Road, would remain a main artery limited to cross-town traffic. Similar comment is applicable to Saint-Laurent Boulevard and Mountain Road. Mountain Road might be ultimately connected to the Deschênes Road by a transverse artery, especially in the case of construction of a new bridge at Deschênes Rapids.

In the Province of Ontario:

Several existing roads are adaptable to the function of main arteries, urban or suburban:

Scott Street extension to Wellington west (existing Route 17).

Wellington in the central area will be prohibited to commercial traffic which will be diverted to Albert and Slater (one-way streets), and will use the new bridge over the Canal and Waller Street as a by-pass to Wellington and Confederation Place.

The Base Line Road, becoming the eastern branch of the Metcalfe Road (present Route 31) in Gloucester, would cross the new railroad yards and the industrial district, and lead to the eastern part of the Capital area. The new express way from the new Station to the eastern entrance of the city will also be a main artery, as well as the circular boulevard replacing the right-of-way of the C.P.R. Sussex line.

Until the final layout of the Montreal Road (Route 17), through the eastern entrance and the mall, becomes possible, and pending elimination of the railway yards and lines to the central Union Station, the improved entrance to the city through Eastview via MacArthur Road and Cumming's Bridge will become available as a main artery, while Montreal Road in Eastview and extending to Rideau Street would gradually be specialized as a main local street.

The Walkley Road and Heron Road in Gloucester and the Base Line Road in Nepean would give direct connections from the new Station to the southwesterly section of the Capital.

Merivale Road, as an important diagonal artery, meets local demands within its points of intersections with various other main arteries.

The contemplated express highway, encircling the Capital in the south around the inner limit of the green belt, will become less urgent when the crosstown boulevard is built, but we think that, ultimately, a commercial by-pass expressway from east (Route 17) to west (Routes 17 and 15), serving the industrial and railroad grounds, will become necessary, to relieve the traffic on the cross-town boulevard which will not be an industrial artery. Further, the express commercial highway will connect six interurban arteries outside of the urban area, and service two railway stations (passenger and freight), future exhibition grounds, airport and general military headquarters. At its extremities it would ultimately provide circulation by two bridges with Route 8 in Quebec; in the west at Deschênes and in the east, the areas of Templeton, Pointe-Gatineau and Hull. As it is located in the green belt, it will be easy to reserve its right-of-way for eventual execution when the time is opportune.

### *Secondary Arteries*

Owing to their number, a detailed description seems to be unnecessary in this analysis of the main proposals. Their gradual study and implementation falls within the realm of local improvements.

### *Parkways*

#### *Plate 67*

Many existing roads are shown as parkways, due to the most fortunate fact that they are of great scenic value, natural or by improvement. They are often used for rapid traffic circulation, except where their layouts or profiles are conditioned by difficult topography. For the reader who knows the Ottawa region, they need no description. They are included in our plans, together with possible new parkways, or driveways, to be gradually built in the local green belts and recommended as the basic frame of the system of community and neighbourhood units which will gradually, as and when necessary, form the extension of the present built-up areas. In their layouts we have taken full advantage of high elevations from which extended views of surrounding territories can be obtained. Hereunder we refer only to proposals of major importance:

#### *Plate 5*

From the present Montreal Highway (17) a connection having the character of a parkway should be established from the point known as The Quarries, following the west boundary of the Rockcliffe Airport, and reaching the Rockcliffe Park driveway near the F.D.C. Park. This would provide for tourists from Quebec and Montreal an attractive and even grandiose entrance to the Capital through Rockcliffe and Nepean Point to Mackenzie Avenue and the Chateau Laurier. This could be realized at an early date, while the eastern entrance via the Mall and the new Canal driveway will be conditioned to the future achievement of railroad improvements.

Another important parkway, under study by the Federal District Commission, will lead from the Aylmer Road to Kingsmere. We are of the opinion that it ought to start at the Aylmer Road and follow Boucherville Street along the crest of the gradual elevation bordering the natural park to be preserved and improved around Fairy Lake, as that part of the road gives interesting views of the Capital. At its intersection with the Mountain and Brickyard Roads, a wide distribution circle would be provided, from which point the parkway would enter the wooded Gatineau hills, and wind through the rocky bluffs, past Kingsmere Village into the hills which dominate Meach, Harrington and Philip Lakes. (See regional plan.)

The parkway contemplated from Nepean Bay to Britannia is the third most important addition to the parkway system.

All river-side roads, such as those parallelling the banks of the Gatineau and the Rideau Rivers, by their location and the scenic views they provide, have been indicated on our plan of proposals, under the classification of parkways, as also have certain country roads. This classification has a legal value; it means that all heavy commercial traffic should be prohibited from using those roads, to preserve their character as pleasure driveways. Most of them exist, and due to their limited function, need very little improvement.

### *Streets*

#### *Plate 65*

The widening of crowded and densely built-up streets is in principle to be avoided.

Our proposals, for possible improvement of the street system are of three natures: widening, street opening and rerouting.

(a) Widening only where absolutely needed and where property values are low. Thus, chances of increase of assessment values can be reasonably anticipated, and the operation made self paying, especially if the procedure of excess-condemnation is permissible under the municipal by-laws.

Examples of proposed street widenings:

#### *Ottawa Area:*

King Edward Avenue, south of Rideau Street to the new eastern entrance to the city. This avenue will become a main distributing artery to the north-easterly part of the city.

Waller Street, on its western side, from the new bridge over Rideau Canal to Rideau Street.

Part of York Street, east of King Edward Avenue.

Carling Avenue, from Bronson Avenue to its junction with Richmond Road.

As important thoroughfares in the future urban development, we would recommend the widening of the following roads:

*Ottawa Area:*

Walkley and Heron Roads, in Gloucester and the Base Line Road in Nepean as direct arteries to and from the new Station.

Bowesville Road to Uplands Airport.

MacArthur Road, from C.P.R. tracks to Base Line Road and the latter from MacArthur to the proposed industrial areas.

*Hull Area:*

**Plate 47**

Saint-Laurent Boulevard, main central artery from New Station to new bridge to Ottawa.

Laurier Avenue, when it becomes a boulevard bordering the park on the Ottawa River, facing Parliament Hill, without objectionable industrial interference, should be widened to present a dissymmetrical cross-section including a large drive for general traffic and a parallel service drive to abutting buildings.

*(b) Street openings:*

Examples of proposed street openings:

*In Eastview*, a diagonal connection from Cumming's Bridge to MacArthur Road (at C.P.R. line), and the extension of MacArthur Road from Base Line Road to new Montreal Road.

*In Ottawa:*

Extension of Waller Street northerly from Rideau Street to York Street, and two short diagonals from York east to St. Patrick Bridge.

Extension of Slater Street westerly from Bronson to Albert Street.

The two above operations are the logical extensions of the first operation recommended to relieve downtown traffic—*the Bridge over the Rideau Canal*, between Elgin and Waller Streets.

<b>Plate 51</b>	
—	<b>55</b>
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—	<b>57</b>
—	<b>58</b>
—	<b>59</b>
—	<b>60</b>
—	<b>61</b>
—	<b>62</b>
—	<b>63</b>

After very extensive study of plans, comparative estimates and models, this important and urgent improvement has been approved by the Subcommittee on Traffic and the National Capital Planning Committee, and comprehensive plans are at date being completed.

This bridge is approached from the east by a ramp of three per cent grade from Waller Street, and from the west by two ramps connecting the bridge at Elgin Street to Albert (one-way west) and Slater (one-way east). The approaching ramps will be graded and planted. The structure of the bridge proper is comprised of three spans crossing the present driveway, the Canal and the proposed new driveway parallel to and east of the Canal, and extending for the present time over the railroad tracks and yards.

The justification of the location of the bridge is dealt with hereafter, under Traffic.

Scott Street, easterly from Bayview Road across the C.P.R. yards to Wellington Street.

Lyon Street, southerly from Fifth Avenue to Bank Street.

Extension of Booth Street southerly across Carling Avenue to F.D.C. drive-way along Dow's Lake.

As a part of the north-south cross-town boulevard to be built on right-of-way of the Prince of Wales line, a diversion of said boulevard west of the Canal and Dow's Lake, north of Hartwell locks.

Extension of Bronson Avenue southerly across the Rideau River, to the south entrance circle.

Extension of King Edward Avenue northerly to Sussex, in front of the National Research Building.

Extension of Heron Road westerly from Bowesville Road across the Rideau River and Canal, to Prescott Highway and Base Line Road.

Revision of Merivale Road at its intersection with Base Line Road.

Diagonal connection between Carling Avenue and Britannia Village.

Extension of Gladstone Avenue westerly from Parkdale to Holland to connect with Byron Avenue.

Diagonal diversion of St. Patrick Street to Guigues at King Edward Avenue.

*Hull:*

New Boulevard from Reboul Street to Montclair Boulevard and diagonal connection to Mountain Road and Chelsea Road.

New parkway on right-of-way of Hull Electric Railway, to the town of Aylmer.

Many other similar operations of varying importance and urgency are shown on the plan, and will be studied in detail as and when the various proposed operations are considered by the National Capital Planning Committee.

*Traffic and Parking*

The traffic problem has been the subject of extensive studies.

It will be largely solved by *rerouting* principles applied to traffic movements:

1. The through east-west traffic now passing on Wellington and Rideau Streets will unquestionably find it advantageous to use the new cross-town parkway.
2. Local and through traffic between the commercial section of Sparks and Bank, and the commercial section of Rideau and Dalhousie, now forced through Confederation Place, will likewise find a much easier channel by Albert and Slater (one-way each) across the bridge over the Canal and railway yards to Waller and to its extension to York toward St. Patrick Bridge.
3. The left hand turn of traffic from Confederation Place to Sussex Street at Rideau is the main cause of blockage of traffic, and, even after the relief obtained by the new bridge, many cars will continue to use Confederation Place.

It was proposed in our plans of 1938 to widen the space between the Chateau and the south side of Rideau Street by eliminating the Daly Building and the old buildings in front of it across Rideau Street. Such widening would make the left turn for automobiles and street cars much easier and provide more space for the alternate stoppages by traffic lights.

Direct access to the main entrance of the Chateau is possible by a left turn of sufficient radius. But such remedy is only a part of the final proposed layout when the Union Station is removed. When the space between the Transportation Building and the Canal is available, a right turn loop will be possible, to take care of all the traffic bound for Sussex, through an underpass drive reaching Sussex Street south of the Customs Building.

Rideau Street traffic would then flow freely from east to west. Sussex would be reserved for north-bound traffic; Mackenzie for south-bound traffic.

Access to the Chateau from Rideau would be by its front entrance, and from Mackenzie by both side and front entrances. From Wellington, access would be from the underpass, under the side entrance, adjacent to the elevators, and consequently under cover, and also by the front entrance, as previously mentioned, by the left turn provided in the interim solution. Outgoing cars from the Chateau to Elgin and Wellington would use the front entrance as at present. The underground entrance would be used by traffic coming from the new driveway proposed at the level of the present railway tracks and leading to the Interprovincial Bridge, while the opposite movement, from the Chateau to the driveway, is also possible from the lower level.

4. The use of Albert and Slater, each one-way, for the traffic movements between Wellington west, Elgin, Waller, Rideau and the possible extension to St. Patrick Bridge, gives a convenient by-pass to Wellington and Sparks for local traffic seeking access and outlet along the entire length of this long cross-town project, from all connecting north and south streets. The combined width of pavement gained by the conversion of Slater and Albert to one-way streets totals 80 feet, providing six traffic lanes and two parking lanes. This result is obtained without any expropriations, while the widening of Laurier Avenue would be costly, slow, inefficient, the maximum possible width of pavement thus securable being 46 feet, which is the width of that part of Laurier already widened from Elgin to Bay. Further, the use of Laurier as a cross-town artery would destroy its character on both its eastern and western parts, which are exclusively residential, particularly the eastern part. However, such transformation might happen in the future, should the centre of the city be subject to unforeseen commercial extension. In such case, a bridge over the Rideau River is possible at Laurier East and would give a connection to MacArthur and Montreal Roads.

The growth of east-west traffic may also ultimately be such that Somerset should become a local main artery, a convenient link between central and eastern residential districts. Then new bridges over the Rideau Canal and Rideau River will be necessary as an additional traffic diversion, but not as an efficient remedy to present downtown congestion.

The creation of the south entrance boulevard and distribution circle is also a typical example of rerouting with the object of relieving traffic conditions on roads and streets suitable for other definite functions.

The Metcalfe Road, leading to Bank Street, and the Prescott Highway to Preston Street, each have winding, uneasy layouts, suitable only for slow touristic service, and are inadequate as feeders, also Carling, the east-west artery, will each be relieved by the new wide and rapid boulevard leading to this large distributing circle, from which six direct arteries will distribute the traffic movements to all parts of the city. The diameter of this circle may be 800 or 1,000 feet if necessary, in order to give an efficient gyratory service. *But from the practical and aesthetical points of view, it is necessary to keep full control of the grounds around this circle, by reserving them for future public buildings, badly needed by the Government for future departmental purposes, observing proper setbacks and providing large parkings spaces.* The site is now free of constructions and lends itself perfectly for such purpose.

Throughout the whole plan, the treatment of the most important intersections of roads or streets has been adapted to their particular functions or topographical conditions, by surface gyratory circles, T-shaped connections, grade separations, forks, scrolls or clover leaves, in order to reduce the number of traffic lights and facilitate freedom of traffic movements.

*Parking*—The basic principle is to avoid crowding of running lanes by parking, to increase the number of off-street parking areas, to build the greatest possible number of covered parking spaces by taking advantage of the favourable topography of the ground, and by encouraging the construction of ramp garages at strategic locations. The latter are being gradually accepted by businessmen, who are willing to pay for the time saved and safety ensured.

Most of the new public buildings, and even large private commercial buildings should provide in their plans the necessary space for day and night parking. This was done in the case of the new Supreme Court Building and will be followed in the proposed Department of Veterans' Affairs Buildings.

The site now occupied by the Daly Building, and situated between the different levels of Mackenzie Avenue and Sussex Street, is suitable for a two-deck, and possibly a three-deck garage. The site reserved for a future public building on Elgin Street between Albert and Slater offers similar possibilities for an underground garage, with direct entrances on the low side.

The esplanade proposed on Wellington in front of Lyon Street would be established at a level permitting direct access from Wellington to an underground garage accommodating 800 cars.

The basement of the two new buildings proposed at the eastern end of the bridge across the Canal, and facing Nicholas Street, as well as the space under the structure of the bridge, from the Canal to Nicholas Street (when the rail tracks are removed) provides large space for garage purposes. Similar constructions should be fostered throughout the city, wherever conditions favour them.

# DELIMITATION OF FUTURE DEVELOPMENT



PROPOSED OPEN SPACE, NEIGHBOURHOODS AND COMMUNITIES



Albert and Slater, which will become traffic arteries, have already shown a tendency toward the construction of garages with entrances on both streets. This tendency must be encouraged.

The need for large parking provisions has been a factor in our choice of sites for all new public institutions, such as Government buildings, Theatres, Convention Hall, Sports Centres, exhibition grounds, etc.

## 4

### URBAN PLANNING

#### Plate 22

##### *Delimitation of future urban growth*

##### *Nuclear distribution of communities and neighbourhoods* *Zoning proposals*

The master plan shows the *delimitation of future built-up areas* sufficient to provide ample space for an ultimate total population of approximately 500,000. Outside of this delimitation, provision has been made for a controlled rural belt, the basic function of which is to protect the surrounding country against ribbon and other undesirable developments. Its use would, in general, be limited to agriculture and the establishment of large estates.

The provision of residential areas within the inside limits of the controlled rural belt has been based on the principle of nuclear distribution of neighbourhoods and communities. This method of social planning encourages the development of interest in community and parochial life. For the urban areas of the National Capital region, due consideration has been taken of local, social, economic and physical factors.

In the greater Ottawa area, the manifestations of urban blight, such as poor housing, crowding of families and poor maintenance, need betterment, but are not of a particularly severe nature. In the most congested portion of Ottawa, the density is not more than 60 persons per acre.

The master plan calls for a gradual readjustment of densities in the residential areas by reducing the density of central sections and slightly increasing the ratio of surrounding areas. To achieve this objective, good housing in controlled neighbourhoods should be provided prior to any readjustment, so that persons uprooted by these changes can find suitable homes. Moreover, when new public buildings are located outside the present built-up sections, dormitory areas for personnel should be made available.

In portions of St-Georges, Ottawa, By, Dalhousie and Victoria wards in Ottawa, and portions of Hull, which have been designed to remain in residential use, steps would be taken to reduce the population density to the figure recommended for Density Area I. (See table II below.)

The provision of amenities in these areas would provide satisfactory living for those still remaining. Such improvements would be economic to the municipalities involved, since tax revenues would increase, and secondary charges against the civic purse would decrease. However, it is considered that for the low-third income group satisfactory housing cannot be provided without a substantial subsidy of some type.

Other areas which are also permitted as Density Area I, are located in Gloucester Township adjacent to the proposed industrial and railway areas, Eastview, and the balance of the cities of Ottawa and Hull. In these sections single family houses will alternate with a proper percentage of flats and apartment houses. This will cater to low-income families, the retired couples and the young families. But it must be realized that while a higher density is permitted in these areas, the amount of open space per person remains the same as that recommended for new development sections.

Surrounding this core of Grade I density (41.4 per acre) are other densities, namely II (32.5), III (24.4) and IV (12.3), until within the green belt there will be permitted 1 acre properties known as Grade V (4.6). It has been considered desirable to decrease the permissible densities as the metropolitan district expands in order that living areas will gradually take on a more suburban character. These density areas are not confined to any one community or neighbourhood, but several densities may be observed in each.

The density grades shown in Table II are based on data gathered from the census of 1941. The fact that apartments contain smaller families than single family homes is most significant. In the urban area 40 per cent of the families occupy single family homes, 23 per cent live in two-family dwellings, while the balance are housed in apartments, the average of which contains  $7\frac{1}{4}$  families. This basic data is listed in Table I.

The social and commercial welfare of the proposed residential areas have been considered by the formation of neighbourhoods and communities. Typical units are neighbourhoods of 7,000 persons, and communities of about 40,000. The shape and size of such social units within the proposed development areas have been clearly defined on the Neighbourhoods and Communities Plan.

The neighbourhood unit is not only a physical entity defined by water, park, traffic arteries or railway, but is also a social and economic concept. It tends to discourage the exodus of its inhabitants by offering within its boundaries open

space, unpolluted air, quietness, access to the countryside by pedestrian routes and, in fact, all the advantages of good living that belong to the small city. Until recently, these were the birthright of Ottawa residents, but today they are almost gone. If open space reservations are not protected, they will not be available to our children.

It is considered that the proper control of land subdivision aided by strategic purchases of suitable and still existing rural land, can provide the desired amenities if a firm and continuous policy is followed by the pertinent authorities.

No attempt has been made to designate any particular neighbourhood as English, French or bilingual, since it is believed that with minor adjustments the typical neighbourhood would be suitable for all three. It is also considered that the most desirable neighbourhood will be bilingual, in order that the Latin and Anglo-Saxon cultures can be mutually appreciated.

The primary requirement for the location of the elementary schools is that they should be within  $\frac{3}{8}$  mile of the pupils they serve. In order to provide adequate kindergarten and nursery school facilities within a convenient distance for very small children, it is recommended that this portion of the schooling for all children should be non-sectarian and housed in all school buildings on a co-operative basis.

The community is a group of neighbourhoods served by the same secondary schools, fire and police facilities, hospital and all the other appertenances of a city. It has, within its limits, playfields, parks, parkways and areas designated for light industry. This last is of vital importance in order to prevent the daily unnecessary migration of workers to the metropolitan core. On the plan no special areas have been allocated for this use; permissible areas will be defined within zoning by-laws.

TABLE I

*(From census 1941 and Ottawa Housing Atlas)*

(a) Households in the City of Ottawa

Single family.....	40.2%
Semi-detached or duplex.....	23.2%
Apartments—all.....	36.6%
—4 or more families.....	27.0%

(b) Average number of persons per family.....

4.5

(c) Average size of apartments.....

7.25 families.

(d) Average family size by dwellings in the City of Ottawa.

Single family dwellings.....	4.48 persons.
Two family dwellings.....	4.48 persons.
More than two family dwellings.....	3.67 persons.

TABLE II  
*Typical Neighbourhood with 7,000 population*

Type of Density.....	I	II	III	IV	V					
Persons per family.....	3.8	4.1	4.4	4.6	4.8					
Dwellings per acre including streets	17	11	7	3	1					
Neighbourhood centre.....	No. 1	acres 3.0	No. 1	acres 3.0	No. 1	acres 3.0				
Branch library.....	1	0.5	1	0.5	1	0.5				
Health Clinic.....	1	1.5	1	1.5	1	1.5				
Local Shops.....	30	4.0	30	4.0	30	4.0				
Churches.....	3	7.0	3	7.0	3	7.0				
Schools—public.....	1	5	1	5	1	5				
—secular.....	1	5	1	5	1	5				
Dwellings.....	1,842	109	1,706	155	1,591	227	1,522	507	1,457	1,457
Playgrounds—										
Young children.....		4.0		4.0		4.0		4.0		4.0
Older children.....		15.0		15.0		15.0		15.0		15.0
Parks.....		14.0		14.0		14.0		14.0		14.0
Total Acres.....		169.0		215		287		567		1,517
Gross Density per acre.....		41.4		32.5		24.4		12.3		4.6
Size of lots.....		50 x 100		50 x 100		65 x 100		100 x 100		200 x 200
Breakdown of dwellings per 10 acres:										
Single family.....		50		50		45		30		10
Double family.....		20		10		10		0		0
Apartments.....		15		5		2½		0		0

(Allocating 1-2/3 lots per  $7\frac{1}{4}$  family apartment)

NOTE (1) Using the Table above, there will be 48.5% of population housed in single family homes, 21.5% in two family dwellings, and 30% in apartments.

(2) The average family size is considered to be 4.2 persons for the whole urban area.

TABLE III

Community	Number of Neighbourhoods	Acreage by Density	Maximum Population	Govern-mental Building Acreage	Acreage for Heavy Industries	Open Space Acreage
<i>Ontario—</i>						
Nepean West.....	7	III IV 474	1,827 50,409	695	0	1,041
Nepean South.....	7	III IV 1,095	1,464 39,205	259	0	968
Ottawa West.....	10	I II 1,490	575 72,222	365	0	1,093
Ottawa—Central.....	6	I II 106	1,434 62,764	494	0	1,058
Ottawa East.....	7	I II III IV 375 182 315	775 49,594	123	0	669
Gloucester—South East.....	7	II III 811	1,366 64,175	102	2,325	1,346
Gloucester—South West.....	6	II III 1,143	249 35,982	552	477	1,054
Gloucester—North.....	5	IV V 434	935 23,818	969	0	457
Total Ontario.....	55		398,169	3,559	2,802	7,686

TABLE III—*Concluded*

Community	Number of Neighour- hoods	Acreage by Density		Maximum Population	Govern- mental Building Acreage	Heavy Industrial Acreage	Open Space Acreage
<i>Quebec—</i>							
Aylmer.....	5	III IV V	1,298 260 396	36,710	0	0	689
Hull South.....	6	III IV V	1,087 483 971	36,980	166	0	2,163
Hull.....	6	I II III	521 273 527	43,430	283	421	1,251
Gatineau.....	6	II III IV V	343 698 184 621	33,280	0	770	886
Total Quebec.....	23	.....	150,400	449	1,191	4,989	
Total Urban Area.....	78	.....	548,569	4,008	3,993	12,675	

### *Zoning Proposals*

Zoning is that function of town planning which determines the relative disposition of structure to site, detailing uses, areas, heights, intervals and the occupancy of the ground, with a view to assuring adequate access of air and sunlight to buildings to the measure of their occupational requirements, and ensuring health, efficiency and amenity to human beings. Its adoption in practice means the substitution of an economic, scientific, efficient community programme of community building, for wasteful, inefficient, haphazard growth, and ensures the provision of reason and equity in public regulations governing the use and development of public and private real estate.

Zoning regulations vary in different districts according to the determined permissible uses of the land, whether residence, business or manufacturing.

Zoning is part of the city plan. It has direct relationship to the transportation system, including streets, highways, street railways, automobile traffic, etc., also railroad services, both freight and traffic. Further, it relates to public works, utilities, parks, schools, and many special public and private undertakings.

The haphazard manner in which communities have been allowed to grow and develop, without order or direction, is repeatedly brought to attention, by the ever increasing number of representations being made to civic officials by citizens for restrictions against encroachments. These encroachments, either threatening or established, take many forms, such as stores, factories, garages invading residential

districts; apartment houses locating amidst districts of select homes, and being built up to the street and side lot lines, where adjoining residences have observed setback lines and preserved ample front and side yard areas.

Such disregard of the welfare of community interests is manifestly wrong and socially unjust, and it is this wasteful and disorderly condition which zoning will prevent and gradually correct. It fosters civic pride by creating confidence in the justice and stability of the protection it affords. Industry will be more efficient and living more wholesome, if kept generally separate. Separation need not mean great distances for the workers to travel. Concentration of uses, and an equitable and just apportioning of use districts, will reduce the amount and cost of transportation and secure economies, not only directly, but indirectly, in the costs of production and the marketing of goods. Altogether, zoning will assure orderly growth and permanence in the development of a city, enhance the amenities of and insure healthy and sanitary homes for its citizens, prevent congestion, both in home and commercial districts and in traffic facilities, maintain the negotiable values of land and buildings, and eliminate the problematical installation of public utilities, such as sewers and water services, which, under haphazard development, are constructed on a basis of probable demand, the ultimate demands likely to be placed upon them being commensurate with indefinite future development.

It therefore follows, that where extensive town planning of either a corrective or comprehensive nature is, or is about to be adopted, it is indispensable to establish or stabilize by zoning these conditions upon which the efficacy of town planning depends.

Comprehensive zoning within the municipally organized areas of the National Capital Region are primarily the prerogatives of the respective component municipal administrations, delegated through legislative authority of Provincial Governments. In the development of the area as a Capital Region, the provision of adequate zoning regulations will continue to be exercised through these autonomous administrations, but in so doing, due regard must be taken of their functional relationships within the region as a whole, in order that there may be maintained and fostered zoning standards which, while taking full cognizance of their respective needs, will in general be equitable to the whole.

Within built-up urban areas, these standards must necessarily be comprehensive and exacting, while in rural areas they will in large measure be drafted to offset developments which by their natures or dispositions might impair, detract from or destroy natural beauty or, from lack of prior consideration, preclude ultimate desirable improvements.

Within the areas of ultimate urbanization, the communities, as set forth in the Master Plan, have not only been determined as physical units defined by existing or contemplated boundaries, such as streams, parkways, traffic arteries or

railroads, to provide adequate social and economic entities, but with due regard to the designation therein, by zoning, of permissible land uses and occupancies, the relative dispositions of structures to sites, and population densities, in conformity with the basic requirements of each. Such regulation, by zoning, is imperative to the realization and perpetuation of the community concept, as otherwise its essential organization and the relative dispositions of its component parts become matters of haphazard, wasteful and disorderly development.

A major influence in the provision of this essential stability is population density, which, in varying degrees, has been made the basic controlling factor within the designated communities.

The principle is clearly set forth in Table II of the article "Nuclear Distribution of Communities and Neighbourhoods", in which are indicated the types of population densities, Grades 1, 2, 3, 4 and 5, applicable within particular communities and respectively limited to 41.4, 32.5, 24.4, 12.3 and 4.6 persons per acre.

These relative population densities are controlled by limiting the percentage of land occupancy of residential buildings according to classified types, and by prescribing minimum permissible lot sizes, which in turn vary with the status of the respective communities.

Such limitations of lot sizes and permissible land occupancies are not standardized throughout the entire neighbourhood or community, but, on the contrary, are determined in keeping with housing types, whether single-family, semi-detached, or multiple dwellings, each of which are permissible within any neighbourhood or community, provided that the population density throughout the whole does not exceed the prescribed maximum.

Reference to the Master Plan shows the population density grade classifications of the respective communities in colours. Those of greatest density fringe the central area or are contiguous to industrial sections, and those of intermediate densities are dispersed throughout the outer areas, ultimateing with the communities of least density within areas abutting upon the outer green belt or controlled rural areas.

The foregoing, which has been dealt with in terms of residential occupancies, should not be construed as precluding commercial or light industry from locating within defined communities. There is no valid reason why such enterprise, judiciously controlled, should be so excluded.

Industrial areas, for the use of heavy or noxious industries, have been provided in locations which will reduce to a minimum any nuisance incident to their operations, and giving them ample facilities for expansion and easy access to water-fronts, railroads and highways.

## PUBLIC BUILDINGS AND SERVICES

### *Government Buildings*

Plate 43

The plan of the Capital involves a vast program of new permanent public buildings. Wellington Street is the focus of Government activities. It is not yet completed. The western part of the street, between St. Andrew's Church and Bronson Avenue, is a blight, an excellent opportunity for rehabilitation.

On the north side of Wellington, west of the Supreme Court, our plans provide for two new departmental buildings, similar in volume and silhouette, but not in detail, to the Justice Building. The grounds will be available for construction as soon as the present temporary government buildings can be vacated. On the south side, St. Andrew's Church, at Kent Street, is the extreme westerly existing monument to be preserved. The city blocks, between St. Andrew's Church and Bay Street, and between Wellington and Albert Streets, six blocks in all, should be reserved for a group of public buildings and annexes, which would form an appropriate and stately western end of Wellington.

### *Department of Veterans' Affairs*

Our proposal to reserve the two blocks facing Wellington Street for the Department of Veterans' Affairs buildings has been recommended by the National Capital Planning Committee, and approved by the Government.

Plate 43

As an additional feature in the replanning of this section of the city, we propose that the four blocks from Sparks to Albert, between Kent and Bay, be acquired, and that in the middle, i.e., centered on Lyon Street, a large Auditorium—Convention Hall be erected. (See Cultural Institutions). Thus, the function of Wellington Street as the focus of Government activities will be achieved.

But, to rehouse permanently the many departments of Government scattered throughout all parts of the city in temporary quarters, other sites are recommended, with the *definite purpose of decentralizing* the services, thereby easing the housing and traffic problems of their personnels.

A large and favourable space, Tunney's pasture, has been taken into consideration by the National Capital Planning Committee and recommended to the Government for a new group of Government buildings. This land is located west of Parkdale Avenue and fronts on the Ottawa River, along which a parkway will be created by the Federal District Commission.

### *Federal Bureau of Statistics*

The development of this ground will comprise a park facing the river, sites for the Bureau of Statistics, the laboratories of the Department of Public Works, and possibly another Government building, or apartment houses facing the park.

For the Department of Mines and Resources, the Department of Public Works is contemplating a site on Booth Street north of Carling Avenue, and for the Department of Agriculture, on Carling Avenue.

The laboratories of the Department of Public Health would occupy a site, now under negotiation, at the end of Parkdale Avenue, near the Civic Hospital.

### *National Film Board*

The National Film Board requires a large space for its important services, centrally located to facilitate its permanent contacts with administrative and high Government officials.

For this extended undertaking, a site along Sussex Street, north of Boteler and west of Cumberland is considered. This project would provide a favourable opportunity for the remodelling of the section of lower town from Cathcart to Sussex, simultaneously with the elimination of the Sussex C.P.R. yards and of the warehouses and workshops dependent upon it.

But, such operations cannot be rushed, as established interests must be readjusted.

Plans had been prepared by the Board's architect to start a part of the required buildings on relatively free grounds, prior to the clearance of the balance of the site. This possibility is now the matter of careful consideration.

### *Plate 47*

### *Printing Bureau*

The Printing Bureau, inadequately housed on Nepean Point, requires modern accommodation. In keeping with our proposals, a site has been acquired by the Government in Hull, on Sacred Heart Boulevard.

This new imposing building, which will commence the gradual rehabilitation of a part of the city of Hull, which is now blighted, will be approached from all sides by direct arteries—Sacred Heart Boulevard, Laurier Avenue, and a new boulevard connecting Laurier, through Reboul and Montclair, to St. Joseph Boulevard. But these operations are for immediate realization, and concern normal developments. We think that in the near future, the major problem of new government buildings will have to be approached on a larger scale.

### *Department of National Defence*

The Department of National Defence has already consulted our Service on their comprehensive requirements. In order to rehouse its numerous services, a site of about one square mile is considered, foreseeing the possibility of requirements for some 15,000 employees, including housing facilities, in the immediate vicinity, for their families.

We have selected and submitted for the consideration of the Department of National Defence a site of the required size, situated on the Base Line Road, in

the Township of Nepean, within the limits of the future built-up area, as provided for by our plans. Contiguous to the ground, there will be a park (part of the system of community green belts), and large spaces for modern housing, in a development comprising a community centre.

Future direct roads will give additional access to these grounds, and railroad station and facilities can be created, contiguous to them on the belt line. The site, which would also have direct highway connection with Uplands Airport, is admirably suited to the nature of its use, which should not be within the crowded and populated part of the city.

Plate 31

### *New Administrative Group*

Following the essential principle of decentralization, and with the view of furthering its gradual development in the most favourable parts of the territory, we are recommending the creation of a large Government building development on open ground, immediately south of the Rideau River, on the Bowesville Road, where, within a park, several (6 or possibly 8) new departmental buildings could easily be accommodated. The layout of this group would frame the new south entrance of the Capital, at the end of the vast boulevard, giving access to the city by much better and more direct arteries than the present Metcalfe and Prescott Roads. Its central circular plaza, possibly 1,000 feet in diameter, would act as a traffic distribution center leading in six different directions to various parts of the city.

This principal entrance to the Capital from the United States would have a most dignified setting. The land elevation at the entrance boulevard permits of a panoramic view of Parliament Hill and the Ottawa River valley.

We would strongly recommend this proposal for early consideration, if it is the Government's desire to avoid costly expropriations. This ground is now rural, free of constructions, and could probably be left untouched for a number of years, if it could be retained at its present value, by option or otherwise.

### *Department of National Research*

For similar reasons, we propose the reservation of grounds for Government purposes south of the Montreal Road, particularly for the extension of the laboratories for the Department of National Research.

### *Education*

Plate 45

### *University of Ottawa*

This important institution can be enlarged to the south of its present property, and ultimately extend from Wilbrod to Somerset, where it would connect with the University Oval, and from King Edward to Nicholas and Waller. This long range plan would perpetuate its traditional location, without loss of important existing buildings, in a part of the city near the future Seminary, and the other

religious institutions located on Main Street. The proposed arterial developments would provide for its easy access from all parts of the city, by Laurier, Somerset, King Edward and the proposed parkway (Nicholas and Waller).

### *Carleton College*

A suitable and large area could be considered south of the Experimental Farm, by recuperation, for urban use, of a part of the experimental fields, along Fisher Avenue.

### *Schools*

The general school problem is analyzed in Part I, Chapter 10. Location for schools of various grades is a matter of local planning, commensurate with the future development of residential areas. Suitable sites will be easy to select, preferably in the reservations proposed for neighbourhood and community centres, and community green belts.

### *Religious Institutions*

Similar comment is applicable to the local distribution of new churches, where the survey of existing conditions shows lack of proper accommodations, and where new community or neighbourhood centres will be established for future residential units.

### *Hospitals*

No definite location is proposed for additional hospitals. Their logical place is also within the reserved system of green belts, having due regard to ease of accessibility. The proposed site for the new Sacred Heart Hospital at the intersection of Mountain and Mine Roads in Hull is in keeping with the above recommendations.

### *Cultural Institutions*

The National Capital should have a National Institute of Arts, a National Library, a Convention Hall, in addition to private cultural institutions, privately owned theatres, cinemas and other recreational facilities of cultural character.

The Victoria Museum, an outmoded structure unsuited for a general museum, should be completely remodelled; but its reconstruction does not seem worth while on account of the necessary alterations and repairs. We are of the opinion that the National Gallery should be incorporated within a composite group of buildings in which all of the arts would be housed and find adequate expression.

#### *National Institute of Arts*

#### *National Theatre*

The main argument in favour of the project of an Institute of Arts is that a National Capital cannot depend upon privately owned theatres, cinemas or sports establishments in which to hold theatrical performances, such as opera or drama.

A site should be reserved, within the centre of the Capital's social life, for a National Theatre, catering to musical art (opera and concert), drama, comedy, lectures, and public addresses to selected audiences. Such a theatre would be of limited capacity (2,500 maximum) for *direct auditions*. Although the most modern achievements in staging, lighting and recording equipment might be utilized, mechanical amplification would not be desirable in such an auditorium of quality.

### *National Art Gallery*

To be used to greater advantage, the National Theatre could be a part of the general design for an *Institute of Arts*, including the *National Art Gallery*, a lecture room, smaller exhibition and conference rooms, store-rooms, accommodations for photographic and musical records, and all facilities for the study of fine arts. A large part of Cartier Square should be reserved for this purpose. The group of buildings, facing Laurier and Elgin Streets, would be erected in a garden, for outdoor sculptural or architectural displays. Ample parking space would be provided at the rear of the buildings.

### *Auditorium* *Convention Hall*

#### *Plate 43*

Moreover, the Capital should have another larger auditorium for mass meetings, conventions, musical entertainments, pageants and possibly large banquets. The main auditorium should have a seating capacity of 10,000, smaller auditoria and committee rooms, all facilities for large meetings, work rooms, stage equipment, radio and recording outfits, etc. Such a large auditorium would, of course, require sound amplification.

This auditorium must not be situated far from the centre of the city, and will require a large space, not only for the building itself, but for its annexes, or satellite accommodations: hotels, garages, parking facilities, special post office, and commercial accommodations for firms rendering service commensurate with its use.

To be self-supporting, this auditorium should have manifold functions, and therefore should be conveniently located, preferably in the vicinity of the Government grounds, but not directly on Wellington Street, the "Constitution Avenue" of Ottawa. The monumental character of Wellington Street has gradually developed from Confederation Plaza to the Supreme Court, but, from Kent Street or St. Andrews Church to Bronson Avenue, several city blocks present a poor appearance; Lyon Street, from Wellington to Albert, crosses a blighted area. It is most desirable that this section be rapidly improved.

Facing Wellington Street, two new public buildings, to be occupied by the Department of Veterans' Affairs, will start the trend of improvement. To complete the monumental treatment of this part of the city, we have indicated on our plans a plaza, extending from Sparks to Albert, on either side of Lyon Street, in

the centre of which the auditorium could be erected. Its annexes on either side of the plaza, with arcaded sidewalks, will create a monumental frame to the central building. The total operation would extend from Sparks to Albert and from Kent to Bay Streets. Parts of the required grounds are already owned by the Government or the city. The National Theatre, Municipal Auditorium and Convention Hall would provide, in our opinion, the necessary start for the theatrical facilities of the Capital and would be soon completed by other theatres under private management, for stage or screen performances.

### *National Library*

**Plate 43**  
— 45

Ottawa has a municipal library, a private donation, with local branches, but not at the scale of a Canadian National Library.

We would recommend that the site of the present Victoria Museum be reserved, after the removal of its collections to more appropriate places, for a modern National Library, in which some of the most interesting documentation and collections of the Department of Mines and Resources could be rehoused. The collections of Natural History, Paleontology, Geology, Forestry, etc., should be housed in a more appropriate place, within a special building, *a Museum of Sciences*, as part of the Botanical and Zoological Gardens, which we recommend to be included in the programme of educational open spaces contiguous to the Experimental Farm.

The proposed site for the National Library will be in a good residential section and easily accessible from the University by the improved King Edward Avenue and the cross-town parkway.

In addition to the National Library, the main municipal library should have local branches, in addition to those now in existence, in community centres within the city extensions. In every community centre, ground should be reserved for cultural facilities, adapted to the importance of the community, and including, as the case may be, the local library, auditorium or lecture room, small exhibition room, and other facilities customarily provided in a community hall.

**Plate 53**  
— 54  
— 55  
— 56

### *New City Hall*

A capital without a dignified City Hall is a paradox. The use of a large office building for municipal administration and services may perhaps be suitable in an industrial or commercial town, although we certainly doubt it, but in a city of stately government buildings and of many official receptions and ceremonies necessary to the functions of a capital, the City Hall must be a prominent monument.

We therefore had contemplated in the ultimate development of the civic centre of the Capital (Confederation Park) the reservation of a large space for a new City Hall, which would have made it the central focus of the design of this fundamental city improvement.

The new City Hall would have been located immediately west of Nicholas Street within the park to be created on both sides of the new urban bridge passing from Elgin to Waller Streets. Such location had the advantage, besides that of aesthetical merits, of providing for perfect connections and approaches to the City Hall, and for garage facilities at the lower level, reachable on both sides from Nicholas and the new parkway.

The facade on Nicholas would have been widely visible from Waller Street, with approaches at two levels.

Plans and models which have been prepared for this proposal show, better than by description, that this is by far the best solution, in a long range scheme. But we know that the eliminations of the passenger station, and even of the freight yards, cannot be immediate possibilities. Consequently, if the construction of the new City Hall is contemplated for the near future, consideration of this location should be made with the recognition that the full advantages of this site cannot be immediately realized.

We therefore have made alternative plans and models, showing the new City Hall located on Elgin, in the block immediately facing the new bridge, between Albert and Slater. This site would permit of ample access and parking facilities, due to the difference of level between the two streets, and would provide a main facade on Elgin for major reception and assembly rooms, service entrances on both Albert and Slater, and a front facade on a plaza facing Metcalfe Street, for the main entrance to the administration departments. This solution is an immediate possibility, and the axial predominance of the municipal monument is preserved.

The block between Albert and Queen, on Elgin, could be developed if necessary for additional services related to the city administration, but we are of the opinion that a building between Albert and Slater would give ample accommodations for all requirements.

In this solution, the bridge would have its eastern approach framed by two symmetrical buildings suitable for important commercial or financial corporations, or they might be used as public buildings by the Federal or Provincial Governments.

### *Exhibition Grounds*

#### *Plate 31*

We have also proposed the reservation of a large site at the intersection of Walkley Road and the south entrance boulevard, for the eventual relocation of exhibition grounds, giving much more space than the present grounds at Lansdowne Park, which could be maintained as a local community centre.

### *Utilities*

#### *Sanitation*

The question of sanitary organization of the whole of the Ottawa urban area has been brought forward, and is now the subject of study by specialists appointed by the interested municipalities. Report should be available at the beginning of 1949.

The study of the installation of sanitary equipment is co-ordinated in function with the master plan, and with the elements furnished by this plan, such as, densities of population, road system, dispositions of such elements as have direct influence on the design and location of these installations, i.e., industrial centres, government buildings, exhibition grounds, etc. Already a site has been provisionally suggested for the location of a sewage disposal plant in the neighbourhood of Green Creek, west of its junction with the Ottawa River. This proposed location in principle has received the favourable consideration of the specialists, and study of the entire system initially has been made in keeping therewith, based on primary conclusions already deemed imperative.

The Ontario region can be roughly divided into two main drainage areas for the canalization of sewage disposal. The area east of the Rideau River has a natural slope towards the disposal plant site; that west of the Rideau River slopes towards the Ottawa River, and involves consideration alternatively of a pumping or tunnel system to convey the residual water to the site of sewage disposal. The design, the direction, and the size of the sewers are determined by the future extension of the urban area and their adaptation to the natural slopes of the ground, and to the rights-of-way of the proposed highways. Based on these fundamentals, the technical study, while complex and involved, is resolved in principle into a question of research co-ordinated with complete knowledge of all the technical aspects of the question.

The approach to determinations affecting the Quebec area demands prior consideration as to whether the problem should be treated separately, or as part of unified operations for the whole region. In this connection, we must take into consideration the fact that the Ottawa Filtration Plant, which eventually, according to expert opinions, could supply a population of half a million, and the Hull intake are located at the geographical centre of the urban region. It is not conceivable that any part of the area should consider the possibility of having an outlet of its sewage disposal, even if using the most improved methods of sanitation, at a point in the river above these Water Works intakes. Consequently there must be considered the construction of a system which would bring the residual waters from the westerly limit of the urban area, that is, the town of Aylmer, to a point east of the intakes. It is, therefore, essential that the outcome of these studies be received and considered with that same sense of collaborative public interest with which they have been undertaken, based on the considered proposals, the ultimate expansion of the urban area, the predication of ultimate populations and the factual information embodied in the master plan. Only thus can be realized a system which will be lasting and economical, as is the case in all problems of a technical, social, economical or administrative order, which have to take into consideration the present as well as the future well-being of the urban region of the National Capital.

## *Water Supply*

As mentioned in the previous chapter, the Ottawa Filtration Plant, augmented by storage reservoirs at strategic points, could, if desired, supply a population of over one-half million, which corresponds approximately with the ultimate limit of population foreseen in the Capital area.

If its administrative, financial and technical aspects can be reconciled, it would seem logical that this plant should serve the entire population on both sides of the river. If such unification of services is not favourably received, the Quebec region will require to be served by a separate filtration plant, the intake of which should be located as favourably as that of the Ottawa Filtration Plant, that is, central and from deep flowing waters.

Much study has been devoted to the possibility of securing the water supply for the Quebec side from some lake in the Gatineau mountains, but we question very much the advisability or necessity of so doing, when there is available at hand a large natural and suitable source of water in the Ottawa River.

## 6

### PUBLIC TRANSPORTATION

#### *Street Cars and Buses*

In order to combat and alleviate the increasing traffic congestion in central areas of the City, certain existing street car routes obviously must be rerouted and, in instances, eliminated, their replacement by bus lines being particularly recommended where routes traverse narrow thoroughfares accommodating heavy general traffic. Under such conditions street cars follow fixed traffic lanes and are the major factors contributing to the slow movement and congestion of traffic. The substitution of buses will release such formerly fixed traffic lanes, and provide, therefore, two running lanes into which buses can be assimilated in common with general vehicular traffic. This is particularly essential within the areas of Sparks and Queen Streets east of Bank, Confederation Place, and Rideau Street west of Dalhousie Street. Without exception the routings of all street cars traverse these areas, in whole or in part, and there is no alternative. Such a condition obviously is not only detrimental to the provision of efficient service, but is likewise detrimental to the facile movement of general traffic, and is particularly indicative of poor operational procedure in cases of emergency, such as conflagrations in the Sparks, Queen and Rideau Street areas, or on the occasions of ceremonials on Confederation Place, at the Union Station or on Parliament Hill, and incidental to which street car traffic, lacking alternative routing, is entirely suspended.

On the other hand, there are sections within the urbanized area which are inadequately served, and for which provision must be made.

In view of the heavy capital expenditure involved in the recent purchase of the transportation system by the Ottawa Transportation Commission, it is unlikely that any alleviation to existing conditions, particularly where entailing large expenditures, will be forthcoming in the near future. It is within our knowledge that the Ottawa Transportation Commission has, at date, expert authority engaged in studying the system, and with the completion of report will be in a position to determine its policies, which, undoubtedly, will have bearing on the conditions above outlined. It is, however, urged that its future policy should be determined with due regard to the provisions of the Master Plan, in which are delineated future communities, industrial areas, institutional and governmental grounds, and especially a *new arterial system*, all factors having direct bearing upon ultimate transportation facilities, which, while not of immediate concern, warrant consideration now from the point of view of flexibility of adaptation of such services as may be provided in the interim. The utilization of future through arteries made available through improvement of existing main roads, and their connections with new arteries made possible by the abandonment of railroad rights-of-way, particularly typify such provisions, the natures of which are vital factors in the predication of future transportation services. In similar category are various other vital factors embodied in the Master Plan, each of which demand foresight in the provision of public services, as instance, the new station, the sports arena, industrial areas, new locations of government buildings and future exhibition grounds. In the category of matters demanding comparatively early attention, and in addition to the aforementioned alleviation of conditions in the heart of the city, is the removal of street cars from Wellington Street west of Bank and extending to Hull. Such operation is part of the contemplated immediate improvements on that thoroughfare, and is essential for improvement to traffic conditions on the Quebec side of the Chaudiere Bridge, where the present single-track street car line traverses a trestle bridge contiguous to the Eddy Company's property. Also, desirable are the removal, at a comparatively early date, of street cars from Albert Street and the substitution therefor of buses, if full advantage of Albert Street, as a one-way west street in conjunction with Slater Street as a one-way easterly street, is to be attained, and the efficacy of the new bridge crossing Confederation Park, as a relief to traffic congestion on Confederation Place, is to be fully realized.

In the gradual development of the Capital area, innumerable demands will be made, as opportunity presents for the implementation of certain phases of the Master Plan, for the adjustment of the public transportation system to new conditions. For this reason the gradual abandonment of fixed-tracked vehicles and the substitution of buses is recommended in view of the flexibility and adaptability of the latter to meet new conditions.

## SPORTS AND PHYSICAL EDUCATION OPEN SPACES

### Plate 30

Physical education is essentially recreative, although it is the necessary complement of intellectual education.

#### *National Stadium*

Ottawa has a sports centre of small capacity, combined with its exhibition grounds. Soon, both will be insufficient.

Notwithstanding the primary necessity of developing an extensive system of sports and recreational centres, distributed throughout the whole urban area in keeping with the nuclear grouping of communities and neighbourhoods, for the daily training of youth and the maintenance of adult fitness, the Capital must have a National Stadium, with comprehensive sports facilities, including indoor gymnasium, competition swimming pool and training grounds.

South of Dow's Lake, a large open ground of about 160 acres, accessible from four sides, through driveways, existing and proposed, surrounded by attractive scenery, contiguous to the Experimental Farm, free from smoke pollution, lends itself for development as a large sports centre, with adequate parking spaces. The ground can be easily improved by the proper fills, and would be designed in harmony with the beautiful scenery of Dow's Lake.

#### *Sport Centres*

Other local sports centres to serve the new communities should be provided in the territories of Ottawa, Eastview, Gloucester and Nepean, and similar centres should be erected on the Quebec side, in Hull, Pointe-Gatineau and Aylmer, to complete the system of sports centres within the Capital Region.

#### *Playgrounds*

Playgrounds for school children are really part of the school system. The ideal solution is to build the *school in the playground*, or, at least, to have the playground contiguous to the school. All proposed new playgrounds serving neighbourhoods comprising community units and surrounding community centres, should be designed for this purpose, and additional playgrounds to be created for existing schools ought to be established on grounds contiguous or close to the schools.

Ample reservation of grounds, *unsuited for housing or agricultural development*, will form a *continuous system* of open spaces and green belts, as a frame of green to the various community units.

# SPORTS AND RECREATION OPEN SPACES



## OPEN SPACE SYSTEM



## Open Spaces

Comparison of the plans of existing and proposed open spaces (pl. 30 and 35) shows that the proposed system is the logical extension of the existing park and parkway belt, so well designed by the Federal District Commission, and of the development of Gatineau Park and the park system of the Hull region. It is obvious that what has been developed along the Rideau Canal and Dow's Lake can be repeated on the banks of Brewery Creek and around Fairy Lake, and that the future park which, in the ultimate development of Hull will face Parliament Hill from Cartier Park to the Chaudière Falls, can be based on the same principle as the present cliff-side parkway from Nepean Point to Rockcliffe Park and MacKay Lake.

## River banks

The Ottawa River deserves a riverside drive, from Britannia to Chaudière Falls. The Federal District Commission has already started to secure the right-of-way in anticipation of its construction, which in addition to the elimination of the Carleton Place railroad line, will achieve the revaluation of all properties now depreciated by railway nuisances, numerous grade crossings and poor access.

On the opposite side of the river, from Hull to Aylmer, a similar but more simple treatment will be followed on certain parts of the river front, connecting Val-Tétreau, several golf courses, Wychwood and Aylmer, as far as the Cedars. The right-of-way of the abandoned Hull electric line also will be used for the construction of a new driveway.

East of Hull, the Ottawa River has low banks, unsuited for use other than as planted spaces, which we propose to reserve between Brewery Creek and the Gatineau River. Between Pointe-Gatineau and the western end of Kettle Island, the land should be reserved for a natural park, which will provide the foreground of the imposing view from Rockcliffe toward the Laurentian hills.

The Rideau River, from Black Rapids to Rideau Falls, offers naturalistic scenery which could be preserved as park-like river banks, both by partial acquisition for parks and recreation grounds, and by appropriate zoning regulations for the balance of the grounds. This would permit, at certain chosen points, the construction of residential developments of limited density to retain the views.

## Urban Parks

The region of Hull has such great possibilities with the wooded hills and the countless lakes of the Gatineau, that it does not call for a systemized park system. The only major area easy of improvement is within *Fairy Lake Park*, which, by its natural shape, forms a continuous wedge of green from the edge of the Gatineau

forest and “mountain” down to the Aylmer Road. The most effective improvement will be the *central park at the Chaudiere Falls*. The time will come when the heavy and obnoxious industries, now occupying the islands, peninsula, and the rocks, from which the falls originally receded, will finally move to more appropriate sites, for their normal development, and more economical operation.

The master plan is a long range programme, upon which the Capital will grow, and the Falls will always remain *the main feature of Ottawa's natural setting*.

The new Chaudière bridge will join Ottawa and Hull across a park, providing from both sides views of the river and of the falls, instead of being an unattractive service road lined by unsightly structures, smoke stacks, pipes and wires. The power plants will remain in planted settings; they are a functional element of the falls and can be treated in keeping with the scenery.

We repeat that the improvement of the Capital is a long range programme; it must, and will be, carried out gradually, in opportune time, and without injury to the basic industries which, in their own interest will favor their relocation on sites more favourable for expansion.

Similar comment may be made about the Park on *Nepean Point*. The elimination of the Interprovincial Bridge, and its replacement by a more architectural structure behind Nepean Point, will permit of the replacement of the railroad track by a terrace exposed to the west, and giving a full perspective view of the large and picturesque basin formed by the river between the Chaudière Park and Nepean Point, a scene dominated by the romantic silhouette of the Parliament Buildings, and of which all Canadians can be proud.

### *Experimental Farm*

The Experimental Farm, now in the centre of the city, with its arboretum, greenhouses and educational nurseries, is an element of beauty and of public pride. Its driveways are part of the Capital's parkway system. It must remain unchanged. However, large fields belonging to the Farm, south of the main establishment, could be easily exchanged with other lands of equal agricultural quality, located outside of the urban area, on the green belt, or the Bowesville Road, for example.

### *Botanical and Zoological Gardens*

This would permit the development, in connection with the Farm, of a Botanical Garden, south of the Arboretum, and possibly also of a Zoological Garden, partly on the Farm property and partly on the picturesque ground between the Rideau Canal and the river, including the beautiful rocks and waterfalls at Hog's Back. The conjunction of the stadium, the Farm, the botanical and the zoological gardens, facing, on the south, the Government Park, where six or eight new departmental public buildings might be erected around the star-shaped south entrance to the city, would be on a monumental scale, worthy of a Capital

## Park Reservations

If the province of Quebec has been favoured by the natural setting of the Laurentian hills, forests and lakes, the province of Ontario offers other opportunities for natural scenic parks, for which no expenditure need be contemplated. A single reservation, including the Rideau Lakes group and the Mississippi Lakes, form part of an incomparable touristic circuit (see following chapter.)

At a much shorter distance, two creeks, situated within the green belt, lend themselves to the enjoyment of the outdoors. Green Creek, on the east, 4 miles from Cumming's Bridge on the Montreal Road, and Black Rapids Creek,  $4\frac{1}{2}$  miles from Dow's Lake on the Prince of Wales Highway, are proposed as future reservations. Both are of easy access from the future residential areas of the eastern and southern extensions of the city, which will develop near the new industrial areas, in Gloucester. Their topography and their natural landscaping need no artificial embellishments. All that is required is a zoning ordinance providing for their preservation, with the view of providing additional facilities for camping, picnicking, playgrounds, and rest, for thousands of workers.

### ULTIMATE OPEN SPACE SYSTEM OF THE NATIONAL CAPITAL AREA

#### URBAN AREA

*(Existing and proposed open spaces included)*

	Ontario area acres	Quebec area acres	Total
Public Gardens.....	312	82	394
Urban Parks*.....	1,398	693	2,091
Natural Parks*.....	2,932	1,361	3,793
Sports Centres*.....	979	1,723	2,702
Community Centres*.....	881	417	1,298
Total.....	6,502	4,276	10,278

\* Playgrounds are included in these items.

Parkways—93 miles.

Forest Reserves outside the urban area are not included in the above table and amount to 10,170 acres, of which 4,660 acres are in Ontario and 5,510 in Quebec. That area of Gatineau Park south of Kingsmere has been included.

## 8

### RECREATION AND TOURISM

#### *Protection of the Capital Region*

The proposals on this subject are an easy problem, for four reasons:

1. Natural assets have not yet been spoiled;
2. The excellent work already achieved by the Federal District Commission only needs further developments, inspired, on a larger scale, from what already has been accomplished;
3. Our essential recommendations relative to the enhancement and the appropriate treatment of what we might call "The National playground

of Canada", involves *no artificial embellishment*, very little additional expenditure, but certainly calls for *serious protective measures*. By their nature, such measures pertain to matters of aesthetics, and are indicated in Chapter 9 of this Part.

4. The numerous desirable circuits to organize in view of making the whole Capital region available to all Canadians, weekenders and tourists are in great majority, provided by existing roads, easy to improve in certain sections, and to equip for convenient touristic use.

### *Touristic Circuits*

We mention hereafter the most commendable circuits:

#### *Quebec—*

##### *Gatineau Park.*

Circuits from Hull, and eventually combined:

1. The National Memorial Terrace, through Mountain Road or through the new F.D.C. Parkway.
2. Mine Road, Old Chelsea, Kingsmere, return by Mountain Road.
3. Chelsea through Chelsea Road, Old Chelsea, Meach Lake, Harrington Lake, Philippe Lake, and return either by new F.D.C. Kingsmere Parkway or by Sainte-Cécile-de-Masham, Wakefield and Chelsea Road, or by Saint-François-de-Masham, Ramsay Lake, Eardley Road and Mountain Road. An interesting alternative would be from Ramsay to Taylor Lake and Philippe Lake.

Longer circuits:

Hull, Mountain Road to Breckenridge, highway No. 8 to Beechgrove, Lapêche Lake, Wolf Lake, Masham Road to Chelsea, Chelsea Road to Hull.

Additional circuit, as extension of the above mentioned, to Quyon and possibility of return to Ottawa by Quyon ferry and riverside Parkway to Constance Bay and Britannia, to Ottawa.

*Gatineau River West*—Maniwaki highway to Chelsea, Wakefield, Low (Paugan Falls). There the Gatineau River is transformed into a long lake, by the Paugan dam. The lake is about 10 miles long, to Lake Sainte-Marie, reachable by Martindale and North Low.

From Lake Sainte-Marie, to Kazabazua (R.R. Station) to Danford Lake, Otter Lake, McQuaig Lake, Johnson Lake, Shawville and return by Route 8 to Hull.

*Gatineau River East*—Wakefield Road to Wakefield, Wilson Corners, Saint-Pierre-de-Wakefield, McGregor Lake, Perkins, Jeanne-d'Arc, East Templeton, Hull (by Route 8).

*Additional combined circuit*—North of Saint-Pierre-de-Wakefield, to Wakefield Lake, Val-Paquin, Poltimore, Bowman Lake, the dam to High Falls and Val-des-Bois, return through Road 35, the valley of River du Lièvre, Notre-Dame-de-la-Salette, Buckingham and Route No. 8, or Donaldson Lake to Rivière Blanche and Templeton.

We would mention several additional longer circuits:

Maniwaki Road to Maniwaki (Indian reserve), to Mont-Laurier, and return by Road 35 (Lac des Iles), Notre-Dame-du-Laus, and detour by boat by Lac Poisson-Blanc, Mystery Island (the Boy Scout National Domain and Bird Sanctuary, established and fostered by the late Noulan Cauchon until his death), and return by the Priest Creek valley to Poltimore (road to be improved), or by Kelly Newton, Lac Sainte-Marie and Kazabazua.

From Buckingham to Lac La Blanche, and by a road to be improved, following up Rivière Blanche to Gull Lake, Lac de la Dam, and Echo Lake.

From Thuroso (Route No. 8) to Saint-Sixte, Ripon, Chénéville and Lac Simon (Ile du Canard Blanc).

Another wild lake, reachable from Gracefield (Route No. 11) is 31 Miles Lake, through White Fish Lake and Point Comfort.

The longest circuit, through Route 8 to Montebello (Seigniory Club) by Road 57 to Saint-Jovite, leads to Mont-Tremblant Lake (National Mt. Tremblant Park) and by route 11 to Nominingue, Lac des Ecorces, Mont-Laurier, by a modern road through splendid scenery, to Mont-Laurier and return by routes 11 or 35.

### *Quebec and Ontario*

*Ottawa River valley*—East—Route 8 from Hull to Grenville, Hawkesbury by bridge, and return to Ottawa through route 17 in Ontario.

*Ottawa River*—West—From Ottawa to Fitzroy, Arnprior, through route 17 to Renfrew and Portage-du-Fort, return by Shawville and route 8 to Hull in Quebec; or from Renfrew to Pembroke, ferry to Allumettes and return on the Quebec side through Fort Coulonge and Shawville (route 8).

### *Ontario*

Circuits—

Ottawa to Fitzroy, Arnprior and the Mississippi Valley to Almonte (road 29), return to Carp and Ottawa, or from Almonte to Carleton Place (road 29) and Ottawa through road 15.

Extension to larger circuits—

Ottawa, Almonte (17 and 44), Carleton Place to Perth (route 15), an unspoiled old English town, with its typical stone houses, and large planted spaces, which deserve aesthetic protection by special by-laws. From Perth to Rideau Ferry, grandiose view on the lakes, Lombardy, Smiths Falls, return through Merrickville, Burritts Rapids, and Road 16 to Manotick and Ottawa.

The above list of various circuits and tours from the Capital is only indicative, and quite incomplete. There are unlimited resources for the enjoyment of short and long range outings and touristic opportunities. But the road system has not yet been sufficiently developed to give access to a great number of charming

valleys, lakes, and wooded sites, where every form of recreation or sport can be provided. Also many points, at different elevations, can be reached to permit of the enjoyment of picturesque or grandiose views.

Those possibilities will be gradually made realities, as and when appropriate work is carried out to improve the means of approach. There is however no need of a complex and expensive road development, as many parts will better retain their charm and beauty, if left wild and accessible only by trails or pedestrian paths; with proper camping and picnic accommodations.

In such an attractive country, the example of the rules applied in Switzerland is of great value. The deliberate restriction of automobile traffic, limited to main approaches, and the systemization of reserved forest sections, provide the necessary calm, intimacy and silence which are efficient factors of regeneration for the tired townsman, of re-education of the masses, and of healthy and restful recreation.

If planned along such principles, the development of tourism in the Ottawa region will be a sure, lasting and most profitable investment.

## 9

### AESTHETICS

#### *Common Prejudices and General Considerations*

Aesthetics are usually considered as a luxury, a refinement for privileged classes only. Such a concept is quite erroneous. Even primitive tribes in the course of their hard and precarious life adorned their tools, weapons or fragile shelters. Aesthetic aspirations are natural and vital characteristics of the human mind.

It is often considered that the greatest drawback attached to beauty, is that of being costly when it is the result of man's effort. Again this is an erroneous opinion, because, in many instances, it is *a saving*, and in other instances it may even be *an economical investment*. It is a saving when beauty is secured by preservation. It is an investment when the resulting composition proves to be such as to *attract great numbers of people*, and thus add to the important economic industry of tourism.

There are two ways of implementing aesthetic control, both of which are often complementary. First, by planning and creation, and second, by regulation, either constructive or restrictive.

Beauty is likewise often considered to be superfluous, a parasite, an ornament, the result of learned and artificial speculations, trying to find theoretical formulae which can be plastically interpreted and added, without any relation to the given element. Once again, this is a misconception, for, as Plato said: "Beauty is the splendor of the truth".

It might be advisable to briefly review these elementary principles, because they will guide the adoption of policies of preservation and of the creation of elements of beauty.

From the social point of view, aesthetics as a factor in urban life have direct, positive and constructive reactions. They foster the growth of civic spirit, and provide incentive for citizens to become conscious and proud of their environment, and, consequently, to be better disposed to co-operate in the improvement and preservation of that environment. It cannot be denied that beauty, from the moral point of view, has also a beneficial influence.

### *Preservation and enhancement of the areas surrounding the National Capital*

The setting of the National Capital Region, and particularly its Gatineau mountains, forests, lakes and rivers, is an invaluable natural asset, the future development of which needs to be judiciously guided and controlled, rather than to be improved upon. Its present limited development is, fortunately, such as to ensure the fulfilment of its function as a National Capital Region.

*Preservation of the character of the land* is the watchword for the aesthetical control to be enforced. This character, which is mainly that of charm, harmony and softness, should be respected and maintained at a human scale when any construction is considered. The beauty of a lake, or of a wooded hill, particularly if of moderate size, would be depreciated by a large and bulky hotel, by a conspicuous parking ground.

Any new element required for recreation, traffic or tourism, should be incorporated with great tact and precaution. Monumental structures should be excluded from a land which calls for intimacy. Even the river shore of the wide Ottawa River is not to be excluded from such considerations.

Parkways should be limited in width, and should not be required to provide the facilities of traffic highways. If and when planted, it should be in the least formal way possible. Speed is not required in an environment of rest and enjoyment, and it should be limited, not only by regulations, but by the nature of the parkways themselves. Their location should be selected in such a way that they will not only take advantage of the topography of the ground, but will secure fine outlooks and variety of aspects; the objective is not to provide the shortest distance from one point to the other. In Rockcliffe Park there are excellent examples of parkways which invite relaxation.

Parking places should always be as limited in area as possible, and should not mar the scenery by obvious intrusions of size or unsightliness. They should also be adapted to the topography of the ground, not only for reasons of economy, but with the view of making them less conspicuous. Trees and shrubs should be preserved, not only around, but within parking areas.

Similar recommendations hold good for picnic places. All elements to be incorporated in promenade systems should also be carefully designed. In this

regard, the Federal District Commission has disposed at strategic points some very harmonious and inconspicuous signs, which are good examples. The Blue Ridge Mountain Park development in Virginia offers excellent examples of shelters, signs, benches, and balustrades for a park of this nature.

There are also, on the Ottawa River, and along certain lakes in the region, some fine sand beaches. They are few in number, and if only for this reason, it should be recognized that their development for public use is often fraught with difficulties. The evils of uncontrolled public beaches, with their intricate traffic conditions, their desolate treeless areas for car parking, and their multiplicity of signboards and uncontrolled refreshment stands, are elements, the control of which must be exercised in their development.

Places reserved for recreation and tourist accommodations should be the subjects of special architectural treatment. Hotels, cabins, gas stations, restaurants, stands, etc., in design, colours and material, should be elements of attraction and enhancement, instead of being, as is too often the case, a blot on the scenery.

#### Plate 5

We have tentatively indicated in our plans areas which, at present are, or may eventually become Federal District Commission properties, and which should be subject to close control. Other areas comprising the shores of the Ottawa, Gatineau, Mississippi and Lièvre Rivers, the regions of Lapêche and Wolf Lakes, which, happily, are still in their primitive conditions, and the region of Saint-Pierre-de-Wakefield, Dower, Grand and McGregor Lakes should be subject to special protective measures, which would not affect existing property rights of the owners.

Special notation is made of the fine forest of pines at Perkins and a number of similar beauty spots, which, along with many others which could be indicated by us, deserve special consideration.

The proper preservation of the beauties of the region is a continuous undertaking, requiring patience and painstaking effort, if there is to be offset the encroachment of undesirable selfish interests to the detriment of general betterment. Such measures are essential, if the region is to be made fitting and acceptable to Canadians generally as their National Capital, and as a model of good taste and tactfulness in the enhancement of its accommodations and beauty.

If such recommendations are not implemented soon, particularly in outer areas, as eventually they will be, and until the restrictions, regulations, precautions and controls herein outlined are enforced, the opportunity of making effective their beneficial influence will be lost. Visitors entering the region should instantly be made aware of an environment which will typify the region as the National Capital to a degree which a mere panel stating "You are now entering the National Capital Region" would not convey.

We have tentatively indicated on the regional plan an area which comprises the Gatineau Park with added territory. Its total overall surface is approximately 83,000 acres. The Holt Report recommended the acquisition of 75,000 to 100,000

acres for park purposes, with only a vague indication of its boundaries. The added territory is, in our opinion, the natural complement to the existing park, and should be secured, preserved, and enhanced on the same lines as is recommended for the present holdings. In view of preserving its unity, the same overall policies of maintenance and restrictions should be enforced in this added territory, through direct ownership, or otherwise; that is, circuits of parkways, the installation of lookouts, picnic grounds, controlled recreation centres, the closer protection of the forest, fish and game, and the direct control of the use of the land in general; in a broad sense, more facilities and accommodation for the public in general, and less for the individual.

#### *Panoramic Views*

##### **Plate 70**

One of the first important panoramic views to be preserved, and, in all possible ways, to be enhanced, is the view of the National Capital from the site proposed on the Gatineau mountains for the Memorial Terrace. Its protection should necessitate the proper planning, not only of the memorial itself, but of the surrounding grounds, the preservation of its wild and picturesque aspects, by concealment of adjacent parking areas, the judicious planting of trees to form an appropriate frame to the panorama, and the suppression, or the proper screening, of certain undesirable elements. Anything that would tend to depreciate its symbolic conception in dedication of the plan as a memorial to Canada's war heroes, should be made the subject of control, and, if considered necessary, of prohibition.

Many lookouts can be reserved and pleasantly planned in the mountains in the vicinity of the lakes and the rivers, in keeping with the character of the country. King's Mountain is particularly suited for such treatment. Ways and means of preserving and enhancing these beauty spots are outlined in the chapter entitled *Tourism*.

#### *Views of Parliament Hill*

##### **Plate 6**

Parliament Buildings and the Hill are, in public mind, the symbol of the Capital. The Peace Tower, which crowns the whole composition, has the same meaning to Canadians that the dome of the Capitol in Washington has to Americans, or Big Ben to English people.

There can never be too much care exercised in the preservation of vistas opening on Parliament Hill. The design of main roads takes into consideration the necessity of providing or protecting such vistas in their multiple aspects and characters.

This is the case of the proposed parkway to Kingsmere on the heights of the mountains on grounds already surveyed by the Federal District Commission, which, nearing Ottawa, follows the ridge west of Fairy Lake to Boucherville Road from where the view of the river front of Ottawa is most impressive.

Another view, to which special consideration and treatment should be given, is that view of Parliament Hill from Boulevard Saint-Joseph. It is the only complete view of the whole of the silhouette of Ottawa that can be obtained from a reasonable distance, and it is, perhaps, the most impressive view of the country's Capital, despite some unsightly elements in the foreground. The plans show a limited area to be reserved as open space. Moreover, certain areas between the Boulevard and the panorama should be limited in regard to heights of buildings.

Another interesting view of Parliament Hill is from the heights of City View. As the panoramic view is unobstructed, it is a matter of adopting the proper regulations to preserve the lookout.

A most interesting close-up of Parliament Hill is from Laurier Avenue in Hull, but is only perceptible at intervals through disorderly buildings and piles of industrial materials.

It is proposed to gradually remove all industrial and noxious buildings between Laurier and the river shore, thus providing an appropriate river frontage, and transforming this exclusively utilitarian fringe area into what it should really be, an attractive open terrace facing the hills of the Capital.

The proposed transformation of this section of the Capital area, as well as the Chaudière Falls area, is properly a *restitution* scheme, as can be judged from a great many old prints, which show how impressive was the original setting of the Chaudière Falls, the Ottawa River banks and the whole of Parliament Hill. It is intended to give a more dignified environment to the representative buildings of the nation, and is more particularly a matter of national pride, though the new recreative advantages accruing to the citizens, and the *revaluation of land* along those areas should not be overlooked.

The restoration of the Chaudière Islands to their primitive beauty and wilderness, is perhaps the theme of greatest importance, from the aesthetic point of view—the theme that will appeal, not only to local citizens, but to all Canadians who take pride in their country and its institutions. Ways and means to realize this restoration are outlined in Part II, - 7.

The proposed Interprovincial bridge with its Ottawa approaches on the *east side* of Nepean Point, would permit the embracement at once of the magnificent view of the Point, the locks and the hills, and the silhouette of the bridge would not conflict with the spires and towers of the Parliament Buildings.

The proposed viaduct to replace the Chaudière bridge would have the same advantages. It is to be noted also that the proposed location of this viaduct would provide a complete view of the falls and the river. If there should arise technical difficulties in locating it where actually proposed, which we doubt, it should be appreciated that the technical aspect of the problem is not the only factor, nor the essential factor, in the choice of its location and design. Technique is the servant of human needs and aspirations, not the master to which those needs and aspirations should be subordinated.

As a first principle for guidance in the architectural and landscaping treatment of Government lands and buildings surmounting the river escarpment, it is essential that their romantic characters be respected. The quality of this ensemble lies not so much in its architectural treatment, as in the judicious disposition of the buildings and their silhouette. This silhouette is formed by the steep roofs, pinnacles, towers and even chimneys of the buildings, judiciously located along the cliff in the midst of planted grounds. It is essential that in the continuation of the architectural composition, buildings of a similar character should be designed.

As for the Hull side, it is considered that a few well disposed public or semi-public buildings might remain or be erected between Laurier Avenue and the river, and that this area, treated as a park, would provide recreation grounds, promenades and trails for pedestrians, cyclists and horse-riders. In other words, this park should not be treated in a formal way, but, on the contrary, as a natural landscape, with as much liberty of design as of use.

Another major item in the composition of the Capital should be the central park on each side of the canal, between Elgin and Nicholas, and Rideau and Laurier. It would become the "Commons", traversed by the old historical canal, and framed by public and semi-public buildings. Future buildings should not be compelled to adopt any particular design or style, in view of the partially existing frame. Fundamentally, this park is dissymmetrical, and should not be subject to formal composition. The proposed bridge would be its central motive, on an inconspicuous axis.

#### *Architectural disciplines and control*

Certain streets and arteries within the Capital Area demand special treatment, from their locations and of the importance of their designs within the overall picture. The principal streets which should be the subjects of such special treatment, and of regulations controlling the construction of buildings are Wellington, Elgin, Sussex, in Ottawa, and Laurier in Hull.

#### *Wellington Street*

Wellington Street, as the Confederation Avenue of the Capital, has a specific function; hence it should have a very defined character. Aesthetically it is *essentially dissymmetrical*, and the interest of the passerby should be attracted to the Parliament Buildings side. Our recommendations are embodied in the models and in various drawings and studies, which have been prepared as tentative proposals.

Generally speaking, the buildings to be erected on the north side of Wellington, west of the Supreme Court, should endeavour to complete and continue the picturesque silhouette, a characteristic of Parliament Hill. The building immediately west of the Supreme Court should balance the Justice Building, and, without calling for similar architectural treatment, should retain certain analogy therewith in respect to its mass, its alignment, its silhouette and its height. The

last building which should form a balanced composition, without being strictly symmetrical, should make proper balance with that referred to. This conception is clearly shown on our sketches, as well as on the model.

It is not advisable to maintain the same density of building surface that previous plans have indicated. The composition should be much more open and provide for a large terrace over underground parking accommodations. The south side of Wellington Street should be dignified, and be treated as a monumental background to the north side. It should be subject to very strict regulations, and each building to be integrated in this area should be carefully planned. A profile of the south side of Wellington Street shows that, with the exception of the Langevin Block, the heights of buildings which are of a permanent nature, i.e., the Rideau Club, the American Embassy, the Bank of Montreal, the Metropolitan Life Insurance Company and the Bank of Canada, all reach approximately the same horizontal line. While there is a drop of grade on Wellington Street, the cornice lines of the buildings are approximately at the same level. It is recommended that all future building should respect this limit in height, and should preserve the existing alignment. The horizontal skyline would, thus, permit of the maintenance of a desirable dignity in the composition, the buildings on the south side not conflicting with the picturesque silhouette of the buildings on the north side.

The westerly extremity of the Wellington Street composition would be terminated by a large architectural ensemble, partly described in the previous chapter, and completed on the south side of Wellington by the Department of Veterans Affairs Buildings, the latter united by a large portico extending across and opening upon the Lyon Street plaza, upon which the Auditorium Convention Hall would face. This would provide for a comprehensive architectural and functional ensemble worthy of a Capital and constituting the administrative and legislative core of the Government Services.

The height of future buildings to be erected on the north side of Sparks Street, west of Metcalfe, should be limited to the same level, in view of preventing the unsightly appearance of the back of commercial buildings from Wellington Street or from Parliament Hill, a rule which should be made applicable to eventual additions to existing buildings.

### *Elgin Street*

With respect to buildings facing on Elgin Street, between Slater and Sparks, we make the following recommendations:

Their alignments should correspond with that of the middle facade of the Lord Elgin Hotel, and their heights, if possible, should follow as closely as possible the cornice line already imposed by the Langevin Block, the Post Office and the Lord Elgin Hotel. Again, there is no question of enforcing similar architectural treatment, but, in volume and design, the treatment of future buildings should main-

tain the unity of this important street. An exception could be made of the building which is destined to occupy the site facing the new bridge, even if such would not be the City Hall, as proposed in the plans. As the bridge is on the axis of the block between Slater and Albert Streets, the building in front could appropriately break the line of the general composition on this side of Elgin. As in the case for Wellington Street, it is not proposed to impose regulations which would be drastic. It is, rather, suggested that buildings of a certain type be favoured, and that, if judged necessary, exception might be made from the present regulations limiting the heights of buildings in Ottawa generally. It is recommended that the building between Albert and Queen Streets, facing Elgin Street, should have on Albert Street, the same setback as the Lord Elgin Hotel on Slater Street.

#### *Sussex Street in Ottawa and Laurier Avenue in Hull*

The compositions of Sussex Street in Ottawa and Laurier Avenue in Hull have great importance, as, in each instance, they front, or will ultimately front, on public parks bordering the Ottawa River. The design of those streets should be carefully considered, in order to avoid indiscriminate constructions.

It is recommended that building heights be limited to 60 feet on Sussex street, and that a defined street alignment be observed. On George Street, buildings could be permitted to be 70 feet in height. On Rideau Street, present maximum height regulations would be applicable.

For similar reasons, the height limit of 50 feet for buildings on Laurier Avenue in Hull is recommended. Some elements can be integrated in this street line, and exception can be provided for certain types of buildings, such as churches. Here again, the tact and judgment of authorities charged with the approval, or disapproval, of plans for such buildings, should be the decisive factor.

#### *Equipment of Public Utilities*

One of the major problems in the improvement of streets and public squares is the outside equipment of public utilities, mainly telephone and power transmission posts and wires, with their multiple accessories; tramway lines, lighting standards, etc.

Strict regulations are essential to the control, location and design of those outdoor elements. The compulsory disposition underground of certain elements, especially in particular areas, is desirable. Such areas are streets requiring special treatment, and commercial, semi-commercial and institutional areas, in which there are lacking setbacks to the buildings, and space to conceal the equipment required to service their frontage.

Those existing streets should be designated with the view of proceeding, not only with the control of any new installations, but with the actual removal underground of existing service lines. Where and when outdoor poles and lines cannot be avoided, they should be located at the rear of the lots, as is done in many cities all over the world.

We are confident that all tramway lines will ultimately disappear from the urban scene, as is the case in most modern cities. The use of trolley buses for public transportation has many supporters because of some economical advantages, but they perpetuate overhead wires, which, in turn, fix in perpetuity their routings.

Highway signs indicating directions, numbers, and crossings have been greatly improved in recent years, but local signs, light poles, traffic islands and such like, often display deplorable lack of study, both in form and colour. Light poles have been the subjects of much study, and there is a great variety of designs suitable for erection in different areas in keeping with the scale and cross-sections of the streets and their lighting requirements. Hydrants are not too conspicuous, especially when on boulevard streets. Post Office boxes are, too often, atrocious in shape and colour, under the pretext that they have to be seen. Such objectives can be attained by other means, and the use of flush wall boxes, for instance, should be favoured.

Projections of building elements over and above the street line should be prohibited, such as show windows, bay windows, fire escapes, or outdoor stairs, which are a cause of disorderly appearance.

### *Outdoor Publicity*

The uncontrolled intrusion of outdoor publicity in the form of posters, bill boards, neon signs and such like, within environments to which they obviously do not belong, amounts in substance to the abuse of public rights by private interest.

Despite common recognition of the detriments attached to such practices, apathy on the part of the public generally, and reluctance on the part of municipal administrations, coupled with opposition by those whose interests would be directly affected, in large measure, account for failure to initiate and enforce its control and regulation.

But such control and regulation can be attained without great difficulty when properly initiated. The implementation of the Shipstead-Luce Act in Washington is an example of restrictions concerning outdoor publicity, which have received comparatively little opposition, though in effect since 1930.

Only when organized and controlled on a basis of equity can outdoor advertising be pursued, if the best interests of the public are to be fostered and preserved. Under such conditions, advertising can fulfil its primary function, and even enhance certain environments.

Within the National Capital Region, where the preservation of atmospheres of dignity, stateliness or natural beauty is imperative, every possible protection against the intrusion of all extraneous and detrimental influences must be afforded. Such protection is a condition essential to the full effectiveness of future planning development.

Broadly speaking, outdoor publicity falls within two main categories, i.e., advertising a product, or advertising a place, a hotel, a beach, a theatre, etc. These broad categories should be observed and form the basis of any proposed regulations or controls.

All matters which publicize products could be permitted in areas zoned as commercial, semi-commercial, industrial and semi-industrial. In other areas, except very restricted areas, only the second category, that is, signs publicizing a place or establishment directly within its environs, would be permitted.

Panels, sign-boards or other elements of publicity, should be controlled in regard to number, size (in Washington they are limited to 25 square feet), colour, design and disposition on the ground or on a structure.

Some general considerations should be observed in the design and location of publicity elements: when they are on a building, they should be composed as a part of, or in keeping with the architecture of the building; in some instances, colour harmony might be admissible, especially in the case of neon signs, for the whole or a part of a commercial centre or street.

### *Trees*

The Ottawa Valley is particularly endowed with a vigorous and exceptionally fine growth of trees, especially elms. One of the great charms of the Capital lies in its planted streets, and its parkway system. Reference is made to this characteristic in Part I -8-, "Circulation", and it need not be further stressed as it is recognized and appreciated by the citizens as well as by visitors to the Capital.

Trees are, more than architecture, a definite factor in the enhancement of a modern city. They are the framework of buildings, the "leit-motif" in street design, the aspect of which they may change entirely. They blend inharmonious or contrasting structures, and their removal from certain areas would be deplorable in the interests of the appearance of the streets. They are the luxury of the poor man's abode, and, in many instances, give charm to a modest house, which, otherwise, would be bare and desolate.

Through lack of planning, commercial streets are deprived of such environments, and, consequently, the trees are considered to be incompatible with the functions of commercial areas.

On the contrary, nothing more than trees enhances commercial frontages, which, unless strictly controlled, cannot but express disorderly and chaotic aspects, by reason of their unrelated components and unrestricted publicity elements.

Trees should not be the privilege solely of residential areas, parks and parkways. They should be integrated in the design of industrial centres, as well as of commercial areas. We see no valid reason why any street, whatever be its function, should be deprived of this element of beauty, charm and freshness.

A modern city development is more beautiful and less conspicuous behind and under the shade of trees. The use of other natural elements in the enhancement of city developments is also very important, such as lawns, shrubs, flowers, rock-gardens, etc. The mania for the "megalopolis", the super-densely built self-contained block, is disappearing gradually, and the aspirations of the people are tending toward a more natural way of living. The principles of simplicity expressed by Sir Ebenezer Howard at the beginning of the present century are being confirmed. To ignore those basic principles, and man's deeper aspirations, of which aesthetics is one of the greater, tends toward ultimate social dissatisfaction and unrest.

## 10

### DEDICATION OF THE NATIONAL CAPITAL PLAN

Plate 68

— 69

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The National Capital Plan has been dedicated by the Federal Government to the memory of Canadians who lost their lives in the service of their country during the Second World War.

To give this far-reaching thought its full significance, we think that it should, materially and lastingly, retain its highly symbolic value. In our surveys of the Gatineau hills, we found an ideal site at the extreme southerly point of the hills facing towards the city, which lends itself most favourably to the construction of a memorial terrace, from which an imposing panoramic view of the whole Capital region extends itself. The outlook is situated one mile from the intersection of the Mountain and Mine Roads and four miles from the Peace Tower. The terrace would lie at the foot of a large wall facing the city, and formed of the natural stone of the ground, and on which inscriptions and symbols would portray the glorious deeds of the Canadian forces, while the National Capital Plan would appear, *in reality*, from the terrace. A memorial room would be incorporated in the design, and therein would be perpetuated the names of Canada's heroes.

Easy access is provided to the site by two existing roads, Mountain Road and Mine Road. A still more direct approach will be by the contemplated Kingsmere Parkway.

Parking facilities, at three different places, made inconspicuous by proper screenplanting, would accommodate a large number of cars, at a very short walking distance from the terrace.

## DEDICATION OF THE NATIONAL CAPITAL PLAN



WAR MEMORIAL TERRACE

PERSPECTIVE OF MEMORIAL TERRACE



## P A R T III

### SCHEDULE OF EXECUTION

#### Plate 32

The master plan and programme herewith submitted are not final and rigid blueprints of immediate operations, but a comprehensive and flexible chart of co-ordinated development, subject to amendments and adaptations resulting from detail studies, and from unforeseen circumstances as they may evolve.

The proposals are therefore divided into *short range*, *long range* and *eventual operations*, or as *most urgent, needed and suggested*, as conditioned by financial possibilities.

The major operations shown on the master plan are also diagrammatically represented on the plan called Schedule of Operations, and included in the present report; they are listed as follows, according to their degree of emergency and feasibility.

#### *Immediate and short range operations*

1. Construction of new bridge and approaches between Elgin and Waller Streets.
2. Acquisition and zoning of land incidental to the adequate relocation of railway facilities; the equipment of new railway belt line, from its intersection with the C.P.R. Montreal south shore line, southerly to Chaudière junction, with the C.P.R. Prescott line; development and equipment of new industrial zones on appropriate grounds, contiguous to new railway facilities.
3. Reservation of lands for Governmental buildings and public services.
4. Elimination of the Daly Building and of the buildings on the south side of Rideau Street east of and adjacent to the Union Station, as part of the completion of the approaches to Confederation Place; construction of a terrace on the site of the Daly Building, and of a covered parking area, directly connected with the Chateau Laurier.
5. Extension of Scott Street westerly to Highway No. 15.
6. Construction of parkway from Bayview Road to Island Park Drive.
7. Gradual elimination of the C.N.R. cross-town tracks and construction of the cross-town parkway on the vacated right-of-way.
8. Elimination of the Sussex Street C.P.R. line from Sussex Street to Hurdman's Bridge and construction of circular boulevard on the vacated right-of-way.

9. Gradual elimination of the freight yards at Union Station and their relocation on new freight terminal grounds east of Hurdman's Bridge.
10. Construction of new eastern approach from Montreal Road through MacArthur Road to Cumming's Bridge.
11. Development of industrial zones in Hull and Hull South.
12. Construction in Hull of new boulevard from Reboul Street to Montclair Boulevard, and extension to Mountain Road and Saint-Joseph Boulevard.
13. Partial improvement of Aylmer Road between Hull and the Ottawa Country Club (double drive and central boulevard). Diversion of Aylmer Road by construction of a new driveway on rights-of-way of Hull Electric Railway. Construction of a direct by-pass highway north of the Aylmer Road and the Town of Aylmer to relieve Aylmer Road approaching and within the town of Aylmer.
14. Construction of public buildings:—Printing Bureau; Department of Veterans Affairs Buildings; Headquarters for the Department of National Defence; Bureau of Statistics; National Film Board Building; Ottawa City Hall; Institute of Fine Arts comprising National Theatre and National Art Gallery; National Library; Public Works laboratories and workshops; Laboratories for Department of Health; National Stadium and Sports Centre.
15. Construction, in its first stage, of National Terrace and Memorial on Gatineau Hills, dedicated to the Canadians fallen in the Second World War.
16. Construction of the Mountain parkway from the intersection of Brickyard Road and Mountain Road to Kingsmere.
17. In Hull, direct connections from Aylmer Road to (1) the Mountain Road, and (2) to the Mine Road, by the construction of two new boulevards on either side of Fairy Lake Park.
18. Widening of Laurier Avenue in Hull, north of Interprovincial Bridge, to Jacques-Cartier Park.

#### *Long range operations*

19. Construction of a new highway to Hull, from north shore Montreal Road, through Templeton, Gatineau Mills and Pointe-Gatineau, north of C.P.R. Railway.
20. Construction of public buildings:—Civic Auditorium and Convention Hall at Lyon Street, and annexes on surrounding grounds.—Additions to National Archives—Laboratories for Bureau of National Research and Department of Mines and Resources—Office buildings for decentralized Government Departments—Botanical Garden—Museum of Natural History—Zoological Garden.
21. Construction of esplanade on the western end of Parliament Hill, and of a large underground garage.

22. Reconstruction, in two stages, of the Chaudière Bridges from Wellington Street at the western end of Parliament Hill to Rue du Pont in Hull. Gradual park treatment of the Chaudiere islands, peninsula and Ottawa River banks.

23. Completion of the Railroad Belt line, north of the C.P.R. Montreal line, northerly across Ottawa River, including a new Railroad and Highway Bridge, west of Green Creek, over Duck Island, to the C.P.R. North Shore Line.

24. Construction of the new Union Station on the belt line; elimination of present Union Station and of railroad tracks from site of present Union Station to Hurdman's Bridge and from Hurdman's Bridge to Chaudière Junction.

25. Extension of riverside parkway (operation 6) from Island Park Drive to Britannia.

26. Construction of the new bridge over the Ottawa River to replace the present Interprovincial Bridge; and replanning of the central part of Hull—St-Laurent Boulevard and new Hull Station; and access in Ottawa to the new bridge by Sussex and Mackenzie Avenue.

27. Final completion of the eastern end of Confederation Place by building a right turn loop and underpass to connect with Sussex Street, the new lower entrance to the Chateau Laurier and underground garage accommodations.

28. Gradual realization of Confederation Park, from Elgin to Nicholas, such work being co-ordinated with the elimination of railway facilities, freight first, and ultimately passenger.

29. Construction of new rapid transit highways leading from various parts of the city to the new Station and to the industrial areas. Simultaneously, construction of new residential units in the neighbourhood of the working areas.

30. After elimination of the railway tracks leading to the present Union Station, construction, on vacated right-of-way, of the driveway from Hurdman's Bridge to Confederation Place.

31. Elimination of the C.P.R. Carleton Place line between Nepean Bay and its intersection with the C.N.R. North Bay line. Construction of two lane artery, in conjunction with Scott Street on the vacated right-of-way, and its extension easterly across present railroad yards to Wellington Street.

32. Elimination of the Prescott C.P.R. line between Prince of Wales Bridge and the new belt line south of Rideau River.

### *Eventual Operations*

Other operations shown on the plan or described in the present report, but not mentioned in the above list, concern a number of street or road widenings and openings, green belt reservations, driveways, gradual completion of the park and playground system, planning of new residential units and corresponding civic

centres (for communities or neighbourhoods), development of roads, trails and pedestrian walks within suburban natural parks; such operations form the balance of the proposals shown on the master plan. They are indicative and will be subject to flexible adaptations when they reach the stage of execution. They may be completely omitted or largely modified, if and when needed, in the light of unforeseeable circumstances or new requirements, and to the measure of financial possibilities.

## P A R T I V

# GENERAL RECOMMENDATIONS

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### 1

#### LEGAL MATTERS

The essential scope of a Regional Plan is to *co-ordinate* and *harmonize* all developments within the various parts of the considered territory.

The Regional Plan is a *framework*, within the main lines of which must be integrated the plans of the various municipalities which belong to the region. The *Programme*, necessary complement of the plan, is the *guide* for the growth, the organization, and the collective life of the whole, recognizing the different functions of the various components, and emphasizing their common needs and interests. The result is physical and social harmony, as well as a *substantial saving* in execution, cost, and yearly maintenance budgets. Plan and programme must be sufficiently flexible to permit of possible and justified adaptations.

Far from interfering with, or lessening the autonomy of any one of the components of the urban group, the unity of conception in all plans and by-laws related to zoning, building and development, has the effect of strengthening the authority of each in its particular territory. Herein lies the principal benefit of the overall plan, beside the other practical advantages of facilitating the speedy implementation and realization of all local planning operations, and the lasting enforcement of by-laws. The vital condition of success in this objective is the full co-operation of all parties interested.

An example of such co-operation is found in the province of Ontario, in the creation of the Ottawa Planning Area Board, which groups the municipalities of Ontario comprising the Capital area, and functions under the provincial guidance of the Department of Planning and Development. Pending the highly desirable creation of a similar organization in the province of Quebec, the Department of Municipal Affairs has appointed a Provincial Bureau of Town Planning, whose advice to the municipalities has been most valuable, in furnishing them with models of standard zoning and building by-laws, and in acting as guide and adviser in connection with their particular problems.

The powers of towns and cities, as they appear in the municipal laws or in certain city charters, and despite favourable dispositions for zoning and homologation, are still too limited, in view of the need for protection of the public interests.

The most essential town planning operations are generally too costly due to the fact that it is only through street homologation and expropriation that there can be implemented improvements to the town plan, which, in most cases, is unsuited to the present and future needs of the populations. Existing provincial legislations are lacking, in whole or in part, in their dispositions to permit expropriation for housing purposes or to foster reallocation of properties; in urban, and principally in rural areas, reallocation has proved highly beneficial to both land owner and the community.

In Ontario, matters of zoning are subject to the approval of the Provincial Department of Municipal Affairs through its municipal Board, while matters pertaining to planning and development are the prerogatives of the Provincial Department of Planning and Development through local area planning boards.

In consequence, it is possible for zoning by-laws to receive authoritative approval at the hands of one department of Government, without the knowledge or consent of another department of Government specifically responsible for the approval of town planning implementations in principle, of which zoning forms a decidedly vital part. In other words, official approval of a poorly draughted zoning by-law to be superimposed upon a well planned area, or vice versa, is within the realm of possibility and has been known to occur in actual practice. Such procedure is erroneous. A good zoning by-law cannot be prepared without a previous rational planning study of the area affected, and, to be effective in practice, the judgment of the two authorizing agencies must essentially be based upon the inter-relationship of their respective provisions.

The best town plan remains theoretical, and useless, if its rapid implementation and realization are not economically made possible by a previous reinforcement of the planning legislation. This vital need has resulted, in most European countries, and in the United States, in the enactment of town planning legislation, successively more efficient, and devoted to the preservation of public interest against the abuse of private rights. (Copies and translations of these laws are available at the National Capital Planning Service, and valuable information, contained therein could advantageously be adapted to present Provincial town planning legislations in Canada.)

The reinforcement of the town planning legislations applicable to the National Capital Region must be reconciled by the Provincial authorities, due to the differences between the Quebec Legislation, based on the Code Napoleon, and the Ontario Legislation, based on English Common Law, and should be developed with a view to meeting the best common interests of their respective populations which are closely identical in both provinces. Therefore, in essence, the proposed laws would be similar; they would only differ in the form. It is reasonable to assume that jurists of the two provinces could make a joint study of the texts to be adapted to their respective legislations, in order to give to the two neighbouring provinces legal machinery commensurate with the common needs of their populations, and limited to the technical aspects of planning, zoning and building.

The planning of the National Capital Region presents a great opportunity for the early implementation of progressive by-laws and regulations which could serve as models for the solution of town and regional problems generally in Ontario and Quebec and which will probably be adaptable to the whole of Canada. We know by experience of the profit that has been gained in other countries from such progressive and co-ordinated legislation.

The legal problem is undoubtedly the *key* to the practical success of any town or regional plan. We therefore cannot overemphasize the advisability of the National Capital Planning Committee giving favourable consideration, through appointment of a sub-committee on legal matters, comprised of eminent Ontario and Quebec jurists, to enquire into and make recommendations on the important matters above referred to. These investigations will be conducted with the informative co-operation and advice of the National Capital Planning Service on matters related to the technique of town planning. The findings of this sub-committee might then be made the subjects of presentation by the National Capital Planning Committee to the appropriate provincial authorities.

In conclusion, pending the appropriate reinforcement of the provincial town planning and zoning legislations as above referred to, we would strongly recommend, in view of facilitating the harmonious and co-ordinated development of the Capital region in the best common interest of all municipalities involved in the provinces of Ontario and Quebec, that:

1.—In Ontario, all matters related to *planning* and *zoning* be jointly examined by the Department of Planning and Development, and the Department of Municipal Affairs, through the Ottawa Planning Area Board.

2.—In Quebec, the Bureau of Town planning of the Department of Municipal Affairs be given the necessary powers to act as co-ordinating authority on all matters pertaining to regional as well as municipal planning and zoning—This provision would apply to single municipalities and to groups of municipalities forming a region, entrusting their common problems to regional committees, acting in a similar capacity as the Ottawa Planning Area Board, the creation of the equivalent of which is highly desirable in the Province of Quebec, to co-ordinate the common interests of the municipalities within the National Capital Area.

## 2

### AESTHETICS

#### *Formation and Operation of a Committee on Aesthetics*

Architectural control is the most complex, the most delicate, and the most difficult to ensure. It affects the volume, height, set-back and spacing of buildings, as well as the nature of materials.

Regulations concerning these factors must be incorporated within zoning and building by-laws.

But when the question of aesthetical appreciation is involved, this control becomes particularly difficult to implement, and the principle of the control itself is frequently questioned.

Such appreciation cannot be based solely on texts consisting of positive and precise recommendations. It largely depends on the attitude of the person or persons in charge of implementing the control. It is thus very easy to construe the entrusted power of aesthetical control as being arbitrary. Moreover, the same aesthetical opinions may not be shared by all holders of aesthetical doctrines, or by persons qualified in those matters.

Such thesis, however, cannot stand thorough examination, and cannot reasonably be maintained in light of the desired objective, which is to ensure the exclusion of elements detrimental to public aesthetics.

Therefore, it seems imperative that, to be efficient, the defence of aesthetical values should be entrusted to a responsible authority.

The sub-committee on aesthetics already formed within the National Capital Planning Committee could be the basis of an enlarged organization duly recognized or participated in by the Ottawa Planning Area Board, and eventually by the Regional Planning Commission of Hull, as their Advisory Committee on aesthetics.

This Committee, comparable to the Art Jury of Philadelphia, or to the Fine Arts Commission of Washington, should be composed of eminent architects, partly within and partly without the National Capital Planning Committee, who, in turn, might be seconded by professionals whose occupations permit them to express a worthy opinion on aesthetical matters, such as engineers, landscape architects, art critics, etc. The members of this committee should be outstanding in their respective professions, but should not have any direct professional interest in such matters as are submitted to them. Their considerations should, in principle, be based upon the objectives of the Master Plan.

There is an initial distinction to be made between the areas to be the subject of aesthetic control and the methods through which this control can be exercised. The Government lands and buildings are already subject to control by the Federal District Commission, whose powers have been set forth in Order-in-Council P.C. 5635 of August 16th, 1945, in which it is said, amongst other things: "That any plans for constructional or development work to be carried out on any government owned or leased land in the District of the National Capital by any Department of Government should first be submitted to the Federal District Commission and not be executed without its approval".

But aesthetic control limited to government grounds and buildings, though important and necessary, does not cover the whole problem. It ought to be extended to: *Panoramas, perspectives, streets, squares, commons, parks, buildings and structures* of all sort, including *utilities*.

All plans related to the above-mentioned matters should be passed by the Committee on Aesthetics before issuance of building permits. But to expedite and make easier such control, they should be previously presented in their preliminary stages to the National Capital Planning Service acting as adviser and guide on behalf of the Committee on Aesthetics. By such procedures, eventual refusals or unnecessary delay would be largely reduced.

The function of the Committee on Aesthetics and of its technical advisory service should be strictly limited to general principles, exclusive of any personal preference.

As a typical example, no style should be recommended as compulsory for any development, least of all for monumental architecture. Styles are not samples which can be picked up and applied to the use of any building. Styles are the expressions of different periods, and have their particular techniques, their materials, their methods, their means of work, and their limitations. They become artificial and extraneous forms, when those essential factors are forgotten.

However, this rule does not preclude the use of certain elements which have been more particularly favoured by a given style. The incorporation of those elements does not mean copying them, but rather their adaptation to other means and ways of expression.

The function of a building is always the commanding factor in its design, but nevertheless, it should be adapted to a given frame, and not permitted to express merely utilitarian requirements, regardless of the environment. Within such a discipline, the design should have marked individuality, and liberty of expression. Examples of ensembles with unity of design, together with a marked individuality in each of the components, can be found in streets, squares or commons in many countries. They always convey an impression of charm, stability and harmony.

Too often, literary conceptions, historical remembrances, or mere sentimentality are unduly proposed as aesthetic principles. Nothing is so deceptive than the result brought about by trying to interpret such considerations. A good design is not the product of an artificial evocation. Architectural design is above all the spatial expression of function, interpreted through the sensibility of the artist.

Amongst the elements which become important factors in the aesthetical merits of a building, are the comparative bulk or height of buildings, the unity of roof angles, the types of roofs and the colour harmony. In a row of single family houses, for instance, it is advisable to use the same type of roofs, or terraces, and essential to keep the unity in the shapes as well as in the colours; excess of variety produces disorder. If several colours are used, one must strongly predominate; the others, used as mere accents, emphasize the dominant colour. Bright colours are not to be avoided, especially in a country of long winters, where snow brings harmony.

From an aesthetical point of view, no comprehensive guiding principles can be formulated with any certainty of a satisfactory result. We have merely mentioned a very limited number of elements which have great importance in the designing of residential or monumental architecture, but satisfactory result can only be obtained through the personal ability of the architect, whatever be the nature or importance of the problem.

## 3

### CIRCULATION

The relocation of highways permits of the creation within the urban area of a new road system of which the abandoned railroad rights-of-way are the bases. Through such use of those rights-of-way and the control of land immediately adjacent thereto, it is possible to establish within the urban area new thoroughfares which would have the same character as provincial highways.

The highway systems, being under the authority of the Departments of Highways in both provinces, we limit our remarks to the part of the roads located within the urban area.

The plan of the proposed highway system shows different categories of roads.

These differentiations are not solely matters of indication. They have two definite purposes: (1) the classification of roads permits of the *adoption of standards* according to such classification and (2) it also permits, through agreement, of the determination of *spheres of responsibilities* in construction and maintenance.

The guiding principle adopted in the differentiation of those roads, is the determination of their proper functions, thereby abolishing the erroneous concept, or absence of concept, of the "street for all purposes".

#### 1. *Classification of Roads.*

It is suggested that the Sub-Committee on traffic, in co-operation with technical representatives of the Highway Departments and with our Service, make a study of standards for the different categories of roads as suggested in the plan, with the view of preparing a new classification of roads within the urban area and adapting standards to their respective functions.

#### 2. *Maintenance and Responsibility.*

Such classification of highways may well be made the basis for establishing the respective spheres of responsibility for maintenance and construction, if consideration be given to the tentative suggestions hereunder outlined.

It has been suggested that the Provinces of Quebec and Ontario might in some way contribute towards the development of the National Capital, through the extended collaborations of their departments and services, as is already the case, as well as through a more direct contribution.

While this matter is beyond the scope of our responsibilities, we venture the following suggestion. Under agreement with the municipalities, the Provinces might undertake to construct and maintain within their respective urban areas, such portions of provincial interurban arteries as traverse these areas. The proportionate costs of construction and maintenance to be borne by the provinces would be determined on the basis of equivalent facility if provided outside municipal limits, the costs of additional road widths or other elements considered essential to the provision of urban requirements being borne by the municipalities concerned.

Such an agreement should not involve unsurmountable technical difficulties. There are numbers of countries where this system has been adopted, the state assuming responsibility for a portion of national highways traversing towns or cities.

Such classification facilitates the provision of by-laws regulating road standards, the treatment of their approaches, and the enforcement of police regulations.

#### *Implementation of the Road System Plan.*

The implementation of the comprehensive road system is as urgent as is the revision of railroad facilities. In the Province of Ontario there is established procedure through which implementation is assured through official approval of the Master Plan by the Department of Planning and Development. It is hoped that similar procedure can be established in the Province of Quebec. Pending such, it would seem advisable to take the necessary steps through which to reserve the required rights-of-way within or adjacent to built-up areas. Such action will require the approval of the municipalities concerned and would permit of the control of new subdivision contiguous to proposed rights-of-way, and of the establishment of the required set-backs parallelling new or existing arteries to be widened.

#### *Parking*

No comprehensive solution has yet been devised through which to remedy the parking problem, particularly within business and commercial centres. Some municipalities provide parking areas, and some have adopted measures under which commercial establishments and office buildings must furnish parking and loading accommodations, determined according to the nature of the enterprise or the floor space of the building to be served.

Adequate zoning and decentralization will do much to prevent traffic and parking congestion. But there will be necessarily an interval between the present and the time when the efficacy of such methods can be evidenced, during which existing conditions will become more acute. Even with the adoption of sound planning methods and the creation of neighbourhood and community centres, it is not anticipated that the problem will be entirely solved within central areas because of population growth and the rapid increase in traffic.

As a principle we would recommend a large number of small parking areas and garage facilities well distributed. We have already proposed examples of such at several definite points in the Master Plan, but recommend their gradual extension to all possible sections of the central area, both through private and municipal ownership.

To this objective, such regulations as may be fit should be adopted to oblige public and semi-public institutions, such as large commercial or office buildings, theatres, etc., to provide for parking space on their own grounds.

## 4 ZONING

Zoning being the prerogative of municipal authority, both in Ontario and Quebec, it is essential, in order to maintain general standards within zoning by-laws applicable to the whole urban region, that the municipalities collaborate with the view of adopting general principles as guiding factors in the preparation of their respective zoning regulations.

As already stressed by the Chairman of the National Capital Planning Committee, a matter demanding immediate action is the adoption of restrictive measures precluding the establishment of noxious and heavy industries within their respective administrative boundaries, other than in industrial areas specifically designated in the Master Plan.

In this connection, the National Capital Planning Committee, with the technical advice of the National Capital Planning Service, should undertake the prior comprehensive enumeration of industries to be classified as light, heavy or noxious.

Similar collaborative action is recommended in the adaptation of proposed building densities to the guiding principles indicated on the Master Plan and in the Report.

Such co-ordinative action is imperative for the full implementation of the Master Plan.

## 5 PUBLIC RELATIONS

No master plan can be successfully implemented, no town planning law efficiently enforced, if the public and their representatives are not properly informed of the real and material value of town planning. The beneficial and direct influence of community planning on economics and welfare, and the immense saving obtained by foresight are generally considered as town planners' bluffs. General ignorance must be blamed for this, but also the lack of psychology on the part of planners, who fail to inform and educate those to whom their work is devoted. Academic disputes and theoretical demonstrations just confuse the man in the street, who expects good housing, public services, and recreational facilities.

Therefore, to foster any city improvement or development, an efficient service of public information is essential. To this purpose, the National Capital Planning Committee has appointed a sub-committee on Information and organized a service of Public Relations and Information, which has formulated a complete program of action through the press, illustrated periodicals, radio, the cinema, exhibitions and lectures.

The scope of such information is designed not only to make the general public acquainted with the characteristics of the master plan of the National Capital, but, primarily, to demonstrate the advantages of such comprehensive work, and gradually create keen public interest in town planning, and public demand for urgent action by the authorities for the carrying out of the improvements proposed in the plan. To create such interest and demand, it is essential to instill a clear understanding that sound planning and reasonable zoning are not liabilities but profit-giving in all domains; to show that the common objections that city planning and improvement mean *more taxes* is fallacious, but that, on the contrary, when the proposed measures have been elaborated with a view to meeting the needs and requirements resulting from serious surveys of existing conditions, they protect and enhance all *private interests and aspirations*.

To prove this, *many examples* of successful town planning work accomplished elsewhere must be described and analyzed in order to show their common similarity to the particular problem considered. *Facts, figures, true illustrations* are more convincing than theories or general considerations.

Citizens' organizations and associations, such as the Community Planning Association, the Canadian Club, service clubs, artists' societies, and particularly professional institutes such as the Royal Architectural Institute of Canada, the Engineering Institute of Canada, and the Institute of Professional Townplanners, are willing to give most efficient co-operation and support.

The co-ordinated action of the Director of Public Information of the National Capital Planning Committee with that of all public-spirited and competent citizens' organizations, will be a potent factor in guaranteeing the success of the town planning campaign of education. Further, the expressed appreciation by the public of its recognition of the fact that, through sound planning, their most intimate interests are safeguarded, promotes another major and practical aspect of the dissemination of proper information: municipalities will find it profitable to their administrations to consult the National Capital Planning Service, responsible of the comprehensive plan, in the solving of their local problems, instead of approaching them separately and regardless of incidences outside of their municipal territories.

There already have been many instances of such consultations with the Service, when municipalities sought collaboration in the study and solution of particular problems relating to subdivisions, zoning and building by-laws, and the general planning of immediate developments or future extensions. In the case

of the Village of Pointe Gatineau, the National Capital Planning Service has provided a complete and comprehensive town planning study for its guidance in immediate and future developments.

Such spontaneous collaboration between the technical service entrusted with the planning of the whole and provincial and municipal administrations responsible for the planning and the zoning of the component territories of the region is the ideal basis for rapid and efficient planning.

These comments are submitted in the trust that a comprehensive plan of action, in relation to public information, will be developed to ensure effective education of the general public, and also to foster increased co-operation and team-work on the part of all administrations interested in the future development of the National Capital Region.

## 6

### DELIMITATION OF THE NATIONAL CAPITAL REGION

The National Capital Region, as defined in the Order in Council 5635, of August 16, 1945, is amply sufficient for the planning work of the region. In fact, a relatively small part of it, 200 square miles out of 900, calls for physical planning, the balance being subject only to protective measures, to keep its rural or touristic character. In view of the latter objective we have already, as per letter of July 10, 1946, called the attention of the National Capital Planning Committee in the interest of either slightly revising the limits or simply extending protective measures to parts of the surrounding territory outside of the regional limits.

They consist of:

In Quebec—

1. North of Lapêche Lake in Pontiac County, Wolf Lake, Galverson Lake and Fishing Lake, and east of this group of lakes, the road from Duclos, to Mahon Lake and Aleove on the Gatineau River.

2. North of the group of McGregor and Grand Lake, the neighbouring group of Wakefield, McNab, McArthur, Terror, McFea, Mountain Lakes—to the River du Lièvre, and the whole valley of River du Lièvre to Buckingham and Masson, the Ottawa River shore, up to the present limit west of Angers.

In Ontario—

1. Bordering the Ottawa River west of Cumberland and the territory adjoining the Montreal Road in Ontario, from Cumberland to Orleans.

2. Slight revision in Nepean Township to follow the outside limit of the green belt surrounding the urban area.

3. The Mississippi River valley is a charming natural and completely unspoiled scenery. We propose to include it in the protected area from Appleton to its delta in the Ottawa River, already included in the region limits. On the

proposed plan of the National Capital Region, the above mentioned extensions are shown in orange colour, in comparison with the light brown colour of the present limit. If such addition could be proposed, it would give the National Capital Region a limit more in keeping with the physical conditions, the former limit having been largely defined by administrative limits of counties or townships.

If a formal extension of the National Capital Region limits cannot be implemented, it might be sufficient to leave the limits as they have been defined, but to extend to the above mentioned sections, adjoining the Region limits, protective measures, similar to those intended within the Region limits.

## CONCLUSION

Throughout three years of most gratifying and interesting studies, of which two-thirds have been devoted to investigations, and one-third to the working out of practical proposals, we have been constantly encouraged by our unabated faith in the great destiny of the Capital of Canada, reflective of its growing national prestige.

We have endeavoured to follow the orders we received from the Canadian Government to prepare for the future with broad vision and foresight, and with a true concept of the time element, the great judge of all human enterprise. We, therefore, discarded from our plans all half measures, limited and shortsighted solutions, as well as utopian suggestions, as we know their equals in uneffacious and ruinous results.

Our plans, our recommendations, may seem too ambitious and impractical to those whose imagination is limited to consideration of the present, sometimes the past, as a permanent command. They ignore the lessons of history, the inexorable march of time; they may admit and enjoy material progress, but they deny social and moral evolution. Townplanning is a component of human geography, and its advancement must be conceived at the rhythm of progress in *all* domains.

It is likely that what appears today as ambitious visions, will be, in less than a generation, considered as too modest. In the light of such unforeseen developments, we have made a marked difference between imperative requirements, for which we propose definite short and long range operations, and the more remote developments, or more difficult and costly corrective operations, for which our plans permit flexible adaptations. At any rate, the time-element will settle many controversies. Above all, our work has been devoted to the welfare of the population, and not to the preparation of theoretical and pleasing pictures. We trust that our basic studies of the requirements will be undeniable arguments in support of our findings.

But the success of a far reaching scheme needs patience. The long life of a city is the result, and almost the mirror, of its destiny. The Master Plan we have prepared, and the many improvements which, we are sure, will be added to it by our followers, will reflect, during the years to come, the degree of progress and prosperity of the Capital. Despite pessimistic or skeptical views (which might be inspired by external events), we believe in the rapid growth of Canada's Capital, as we believe in the rising importance of the whole Canadian nation. Big plans are made for prosperity, as prosperity always calls for commensurate accomplishments. Canada, with its unlimited resources and its social equilibrium, wisely protected by true democratic leadership, is considered abroad as a blessed land.

The population will continue to grow, as the result of the physical law of natural balance, governing the spontaneous redistribution of populations amongst the civilized nations. Forty million people, instead of twelve, is a reasonable possibility for the Canadian population at the end of this century. Then, our estimated total of half a million for the Capital population might prove insufficient. We have not overlooked such eventuality: the principle of planning community units provides for moderate and controlled densities. A slightly increased density is not detrimental to the health and comfort of the units; more apartments and less single family dwellings would house another 100,000 people, or, if the people's preference for intimacy is, as we hope, still in honour fifty years hence, satellite towns, built outside of the rural belt, will take care of the additional population.

Foreseeing the unforeseeable is nonsense, but preparing for it is permissible. In our enthusiasm and confidence in the implementation of our plans, we do not underestimate the delays and difficulties, which will involve additional work, plans and many readjustments.

Optimism and patience win in the long run.

## PERSONAL ACKNOWLEDGMENT

We could not present our work on the planning of the National Capital without expressing our indebtedness and gratitude for the invaluable assistance received from others during its preparation.

Such assistance is indicative of the fact that a comprehensive town planning work cannot be the product of one man, but is the co-ordination of the contributions afforded by collective research and effort. In the present case, the unanimous support and encouragement we enjoyed, showed that the time was opportune in which to undertake this work.

We sincerely hope that the National Capital plan will materialize, and, if in some measure, our contribution brings closer to the Canadian people the fulfilment of its aspirations, and some reason for pride, their gratitude ought to go first to the great figures of Canadian History, who foresaw the future destiny of this Capital.

Queen Victoria, its Founder; Sir Wilfrid Laurier, who envisioned Ottawa as the "Washington of the North", Sir Robert Borden, who sponsored the preparation of the Holt Report, the first and magistral planning study of the Capital, and the Right Honourable William L. Mackenzie King, who, with the broadest vision and foresight, initiated the present work and whose name will be associated in perpetuity with the development of the National Capital. Great statesmen in world's history have always been great city builders.

From the very beginning of our work, our Service, under the administrative authority of the Minister of Public Works, the Honourable Alphonse Fournier, and of his eminent colleague Mr. Emmet P. Murphy, has received the benefit of their invaluable advice and support, for which we are most grateful. Mr. Gustave C. Brault, Chief Architect of the Department, has greatly facilitated our work by his constant collaboration, as also has Mr. R. Blais, the Department's Chief Engineer.

From all other Departments and public administrations, Federal and Provincial, we have received the fullest co-operation, as well as from Municipal authorities and technicians, especially the Ottawa Planning Area Board, City Commissioners F. C. Askwith and C. D. Wight of Ottawa, and Col. J. Carrière and Mr. Y. Bernier of Hull.

The Federal District Commission, from which the National Capital Planning Committee issued, has been the commanding structure of the entire undertaking. Mr. Frederic E. Bronson, Chairman of both the Commission and the Committee, has closely followed and greatly encouraged our efforts since 1938, and is to be commended for his personal participation in substantial decisions already taken by the Federal Government relative to the vital long range revisions of railroad facilities, and short range traffic improvements in the heart of Ottawa, which decisions were obtained through his wise handling of negotiations. We would associate with our thanks to the Chairman, the name of the Secretary of both these bodies, Mr. H. R. Cram.

The rapid progress accomplished on the railway problem was largely due to the Sub-Committee on Railroads of the National Capital Planning Committee, under the Chairmanship of Mr. E. L. Cousins, whose wide experience and former extensive study of the Ottawa railway situation, made in 1915 for the Holt Report, proved to be most beneficial to our studies of the problem. Technical research on this subject, made under the direction of Mr. S. B. Wass, was most helpful.

The Sub-Committee on Traffic, under the Chairmanship of Mr. Charles G. Cowan, and with the technical advice of Mr. Alan K. Hay, Superintendent of the Federal District Commission, and of Mr. W. L. Cassells, gave us the benefit of their extensive knowledge of the region for the proposals on highways.

The Sub-Committee on Information, under the efficient impulsion of its Chairman, Mr. Grenville Goodwin, and of Mr. Walter Bowker, Director of Public Relations, has organized a comprehensive, nation-wide campaign of documentation, and education, the first achievements of which have been most gratifying.

On matters pertaining to aesthetics, the two members of the National Capital Planning Committee representing the Royal Architectural Institute of Canada, Mr. Charles David and Mr. A. S. Mathers, have our deep appreciation for their tireless support of our endeavours to protect and enhance the aesthetic assets of the Capital.

To all members of the National Capital Planning Committee, we would express our sincere thanks for their sympathetic and sure guidance during these past three years.

The Advisory Committee of the Federal District Commission on Gatineau Park, of which Mr. P. Sparks is Chairman, and Mr. E. S. Richards superintendent of the Park, are in full and enthusiastic accord with us on the possibilities of Gatineau Park, and have, in large measure, inspired our recommendations relative to practical developments of this providential asset of the Capital Region.

As the work of the National Capital Plan had to be extended to engineering plans for certain projects for immediate execution, Colonel V. S. Thompson was appointed by the Department of Public Works, to prepare structural and working drawings for the bridge over the Rideau Canal. His contribution and that of his assistants have been most valuable to our Service, in this and in other engineering phases of our studies.

The preparation of Surveys and of Proposals could not have been effectively accomplished without repeated contributions from Federal, Provincial and Municipal administrations; the Department of Mines and Resources, by furnishing precise data on geology, maps and photographic documents, the Federal Bureau of Statistics, by demographic and housing statistics, the Royal Canadian Air Force, by aerial surveys and panoramic views, the Meteorological Division of the Department of Transport, by climatic statistics, the National Archives, for historical data and most interesting documents of the past, the latter a sure inspiration for our projects for the future, and the Ottawa Transportation Commission, for data on public transportation.

More directly associated with our technical work was the National Film Board, most efficiently equipped for documentary photography and the illustration, in monochrome and colour, of our Report and of the book now in course of preparation for larger public distribution; also for its preparation of information documentation, printed and projected, of newsreels and colour films, and, most of all, for the making of scale models of distinctly attractive and convincing character.

In the delicate and intricate work of the models, Mr. G. Ayotte, and his staff, are to be congratulated for their excellent work.

The Photographic Branch of the Department of Public Works might well be included as part of our staff, when there is considered the tremendous amount of work contributed by it, under Mr. W. Gosselin, whose almost daily and often emergent collaboration was always punctually and gracefully rendered.

The Department of Maintenance of the Department of Public Works made our material and complicated operations most agreeable and comfortable.

The press, and particularly the Ottawa newspapers, The Citizen, The Journal and Le Droit, have, by their support, given repeated proof that the National Capital plan is really work of national, and international importance, above internal politics, and they are worthy of great praise for their long patience. They understood perfectly and so informed the general public, which likewise is to be thanked for its remarkable patience, that until proposals had been discussed and officially approved, news could not be released hastily, and we appreciate how much a reporter can be disappointed by lack of news. We trust that the press will now have a large compensation in the form of ample technical and general releases.

For the completion in a record time of the printing of this Report, and its work in preparation of the final book, the King's Printer, Mr. Edmond Cloutier, and his assistants, deserve high praise and gratitude.

This Report should really be signed by each member of the staff of the National Capital Planning Service, but is it not better that its Consultant be given the gratifying opportunity to say about his associates what *must* be said? Their co-operation, in my opinion, has been a typical example of what can be expected of a team of Canadians, under decision to succeed, with intelligent, zealous, untiring and loyal response to every request. Everyone, in his capacity has given of his best. My two assistants, Mr. John M. Kitchen, by his long experience and sure knowledge of civic and planning problems, Mr. Edouard Fiset, by his great talent and refined culture, and the very happy selection of their associates, Messrs. McDonald, Issalys, Marshall and MacLean, have produced an unbelievable amount of survey, research, design, and detail work, with the efficient co-operation of the other members of the staff: Misses Moore and Hewitt, Messrs. Coté, O'Brien, Roy, Carrell, Lacroix, Mansen, Grace, and Lacasse. The list and character of documents, either included in the Album, or filed in our archives, provides definite challenge to any adverse criticisms. Such a long and elaborate work had to be carefully recorded and classified. The clerical department, headed by Miss G. Beaulieu, seconded by Misses Guibord, Boyer and Mrs. McTavish, has furnished a remarkable work, of which the present report is only a modest justification.

It is my privilege and pleasure, but also my duty, to associate all the names of the members of the National Capital Planning Service with the great undertaking entrusted to us by the Federal Government.

JACQUES GRÉBER,  
S.A.D.G., S.C., S.F.U., M.E.I.C.,  
Consultant.



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LIST OF  
MAPS, PLANS AND DIAGRAMS  
PREPARED BY THE  
NATIONAL CAPITAL PLANNING SERVICE



JACQUES GRÉBER — CONSULTANT

OTTAWA  
EDMOND CLOUTIER, C.M.G., B.A., L.Pi.,  
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1949



## REGIONAL MAPS

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4	No number	National Capital Region map showing existing conditions. (In colour). $1'' = 1\text{M}$
5	OV 2-12	National Capital Region—topographic, physical and administrative; also, wooded areas and secondary roads. $1'' = 1\text{M}$
6	No number	National Capital Region plan showing proposals. (In colour) $1'' = 2\text{M}$

## PLANS OF URBAN AREA

7	No number	Ottawa-Hull and Vicinity plan showing existing conditions. (In colour) $1'' = 1000'$
8	OV 2-18	Ottawa-Hull and Environs—street plan, contours, municipal limits, street and building names. $1'' = 400'$
9	OV 2-15	Ottawa-Hull and Vicinity—street plan, contours, municipal limits, street and building names. $1'' = 400'$
10	OV 10-6	Population—Ottawa, Hull and Vicinity. Plan showing population density: one dot per twenty inhabitants. $1'' = 1000'$

11 OV 27-6 Growth of Ottawa—series of studies showing physical development of Ottawa, Hull and Vicinity, 1810 to 1945.

12 OV 27-6-1 Composite plan showing the growth of Ottawa, Hull and Vicinity.

13 OV 10-7 Ontario Municipal Administrations abutting on Ottawa, showing respective populations based on 1947 assessments.  
1"=4000'

14 OV 30-2 Population graphs—comparative population by racial origins, age groups, religions, etc.; also, population growths since 1810, and anticipated growth.

15 OV 10-7-1 Graphic charts dealing with populations, marital status, earnings, households, rentals, etc.

16 Colour plate Land Surface Coverage within and contiguous to ultimate Urban Area. (Overlays)

17 Colour plate Adaptability of land for agricultural purposes within ultimate Urban Area. (Overlays)

18 Colour plate Adaptability of land to building developments within ultimate Urban Area. (Overlays)

19 OV 7-6 Preliminary study of Land Use for Ottawa-Hull and Vicinity.  
(In colour)  
1"=800'

20 OV 7-7 Land Use for Ottawa-Hull and Vicinity. (In colour)  
1"=400'

21 OV 7-16 Ottawa-Hull and Vicinity Land Use Percentage Diagram.

22 O 7-15 Ottawa Land Use Percentage Diagram.

23 H 7-10 Hull Land Use Percentage Diagram.

24 E 7-4 Eastview Land Use Percentage Diagram.

25 R 7-2 Rockcliffe Land Use Percentage Diagram.

26 N 7-8 Nepean Land Use Percentage Diagram.

27 T 7-8 Gatineau Land Use Percentage Diagram.

28 A 7-3 Aylmer Land Use Percentage Diagram.

29      OV 6-1      Building Height plan in Central Area of Ottawa and Hull.  
 $1'' = 200'$

30      OV 10-5      Civil Service Population—number of Civil Servants living in  
designated areas and related to their places of business.  
 $1'' = 1000'$

31      No number      Land Value plan for Ottawa-Hull and Vicinity. (In colour)  
 $1'' = 1000'$

32      OV 8-1      Building Value plan in central areas of Ottawa and Hull.  
 $1'' = 200'$

33      OV 9-2      Regional plan showing existing main roads.  
 $1'' = 1 mi$

34      No number      Existing Arterial Highway System. (In colour)  
 $1'' = 2000'$

35      No number      Proposed Arterial Highway System. (In colour)  
 $1'' = 2000'$

36      OV 4-7-2      Existing Railroad System, showing interference with street  
systems; also, location of stations and industrial areas.  
 $1'' = 2000'$

37      OV 24-7-1      Portfolio of progressive studies of railroad revisions.  
to  
OV 24-7-9  
 $1'' = 2000'$

38      Colour plate      Plan showing locations of existing industries in Ottawa-Hull  
and Vicinity. (Overlays)

39      OV 9-6      Public Transportation routes in Ottawa-Hull and Vicinity.  
(In colour)  
 $1'' = 2000'$

40      OV 9-8      Ottawa Transportation Commission routes, showing daily  
distribution of street cars and buses. (In colour)

41      OV 9-7      Ottawa Transportation Commission routes, showing daily  
volume and distribution of passengers. (In colour)

42      Colour plate      Schools—showing character, location and capacity.  
(Overlays)

43      Colour plate      Churches—showing locations and denominations. (Overlays)

44 No number Churches—showing locations and denominations. (In colour)  
 $1'' = 2000'$

45 No number Existing Open Spaces—Ottawa, Hull and Vicinity. (In colour)  
 $1'' = 1000'$

46 No number Proposed Ultimate Open Spaces in Ottawa-Hull and Environs.  
(In colour)  
 $1'' = 2000'$

47 No number Proposed Parks and Recreational Areas in Ottawa-Hull and Environs. (In colour)  
 $1'' = 2000'$

48 O 9-7-2 Traffic Density—daily trips of buses and street cars within the Central Area of Ottawa.  
 $1'' = 100'$

49 OV 5-5 Existing Sewer Systems plan—Ottawa, Hull and Vicinity.  
 $1'' = 800'$

50 OV 5-6 Existing Waterworks Systems plan—Ottawa, Hull and Vicinity.  
 $1'' = 800'$

51 O 7-13 Ottawa Land Use shown symbolically by lots.  
 $1'' = 200'$

52 OV 22-1 Preliminary Sketch showing general proposals for central areas of Ottawa and Hull.  
 $1'' = 400'$

53 No number Master Plan—first study. (In colour)  
 $1'' = 1000'$

54 No number Master Plan—final. (In colour)  
 $1'' = 1000'$

55 No number Progressive schedule of work superimposed on basic plan.  
(In colour)  
 $1'' = 1000'$

## ARCHITECTURAL CONTROL OF STREET FACADES

56 No number Silhouette of Parliament Hill. (Sketch).  
 $1'' = 50'$

57 No number Cross-section of Wellington Street through Government Ground to Ottawa River.  
 $1'' = 50'$

58 No number Sussex Street—building height control.  
 $1'' = 100'$

59 No number Elgin Street—building height control.  
 $1'' = 100'$

60 No number Wellington Street—building height control.  
 $1'' = 100'$

61 No number Street Cross-sections.  
 $1'' = 30'$

62 O 9-8 Parking—Central Area of Ottawa. Plan showing percentage of parking space available and percentage of parking space used in downtown Ottawa Area.  
 $1'' = 100'$

## COMPLETION OF CONFEDERATION PLAZA & APPROACHES

### *1. Existing Conditions*

63 O 6-1 Plan showing existing conditions within Central Area of Ottawa.  
 $1'' = 100'$

### *2. Transitional Work*

64 O 25-4 Plan showing proposed transitional developments in Union Station Area.  
 $1'' = 100'$

### *3. Final Development*

65 O 25-13-3 Plan of proposed bridge over Rideau Canal, showing the City Hall east of Canal.  
 $1'' = 100'$

66 O 25-13-4 Plan of proposed bridge over Rideau Canal, showing the City Hall west of Canal.  
 $1'' = 100'$

*Construction Plans for the Bridge*

67 O 25-13 7 Bridge—first stage. Plan showing proposed bridge over Rideau Canal, as also profile of bridge and approaches.  
 $1'' = 100'$

68 No numbers Working drawings for the bridge structure and its details.  
(Col. V. S. Thompson, Structural Engineer)

*Architectural Studies for the Bridge*

69 No number South Elevation of proposed Bridge.  
 $\frac{1}{8}'' = 1'$

70 O 25-20 Perspective Details. -

**MUNICIPAL PLANS**

71 H 2 10 5 Plan of Hull showing lots, streets, contours and street names.  
 $1'' = 200'$

72 H 7 1 Hull Land Use by lots.  
 $1'' = 200'$

73 T 3 8 Hull South Township—plan showing lot lines.  
 $1'' = 2000'$

74 T 3 9 Hull South Township—plan showing land subdivisions, roads,  
streets, names, etc.  
 $1'' = 400'$

75 T 7 5 Hull South Land Use by lots.  
 $1'' = 400'$

76 T 23 1 1 Hull South Township—preliminary study of proposed zoning.  
 $1'' = 2000'$

77 T 7 1 Hull South Township—plan showing restricted areas as adopted in final zoning by-law.  
 $1'' = 2000'$

78 T 29 2 Hull South Township—plan of tentative highway and road proposals.  
 $1'' = 2000'$

79 R 2 2 Rockcliffe plan showing lots, streets and street names.  
 $1'' = 200'$

80 R 7 1 Rockcliffe Land Use by lots.  
 $1'' = 200'$

81	G 2-6	Plan of easterly portion of Gloucester Township showing streets, roads and street names. 1" = 200'
82	G 7-1	Gloucester Land Use by lots. 1" = 200'
83	G 27-3	Study of proposed parks and parkways in Gloucester Township, showing proposed alignments and necessary land acquisitions. 1" = 1000'
84	N 2-6	Plan of northerly portion of Nepean Township, showing land subdivisions, streets, roads and street names. 1" = 200'
85	N 7-4	Nepean Land Use by lots. 1" = 200'
86	N 27-1	Study of proposed parks and parkways in Nepean Township, showing proposed alignments and necessary land acquisitions. 1" = 1000'
87	E 2-4	Eastview plan showing land subdivisions, streets, roads and street names. 1" = 200'
88	E 7-2	Eastview Land Use by lots. 1" = 200'
89	E 8-1	Eastview Land Value—plan showing land values based on municipal assessments. 1" = 200'
90	E 8-2	Eastview Building Value—plan showing assessment values of buildings. 1" = 200'
91	E 22-5	Sketch showing planning proposals superimposed on existing conditions. 1" = 200'
92	T 3-6	Deschênes Village—plan showing streets and lot subdivisions. 1" = 200'
93	T 7-2	Deschênes Land Use by lots. 1" = 200'

4 T 27-3 Deschênes Land Use proposals—present land use and suggested land use restrictions.  
 $1'' = 200'$

5 T 27-3 1 Deschênes Land Use proposals legal descriptions of land use areas.  
 $1'' = 200'$

96 A 2-3 Aylmer plan showing lots, streets, building and street names.  
 $1'' = 400'$

7 A 2-4 Aylmer plan showing lots and streets.  
 $1'' = 200'$

8 A 7-2 Aylmer Land Use by lots.  
 $1'' = 200'$

99 A 8-1 Aylmer Building Value Plan—showing assessment values of buildings.  
 $1'' = 200'$

100 T 3-10 Village of Pointe-Gatineau plan showing streets and lots.  
 $1'' = 200'$

101 T 7-3 Pointe-Gatineau Land Use by lots.  
 $1'' = 200'$

102 T 23-7 Pointe-Gatineau general proposals plan for future development.  
 $1'' = 200'$

103 T 23-4 Pointe-Gatineau—Richer Terrace. Proposed subdivision for Richer Terrace in Pointe-Gatineau.  
 $1'' = 200'$

104 T 23-6 Pointe-Gatineau proposed cemetery. Plan and sketches of proposed cemetery for Pointe-Gatineau.  
 $1'' = 50'$

104 T 3-14 Gatineau plan showing subdivisions, streets, roads, building and street names.  
 $1'' = 200'$

106 T 7-4 Gatineau Land Use by lots.  
 $1'' = 200'$

## STUDIES FOR THE MASTER PLAN AND THE SCALE MODELS

107 O 22-1 Plan showing proposed developments from Hurdman's Bridge to Research Bureau, Sussex Street.  
 $1'' = 200'$

108 O 22-2 Perspective showing proposed developments from Hurdman's Bridge to Research Bureau, Sussex Street.  
 $1'' = 200'$

109 H 22-4-1 Plan showing proposed developments for the City of Hull.  
 $1'' = 200'$

110 O 29-3 Cross-town highway proposals, on existing railroad right-of-way, from Rideau Canal to Nepean Bay.  
 $1'' = 200'$

111 O 29-3-1 Cross-town highway proposals, on existing railroad right-of-way, from Dow's Lake to cross-town tracks and westerly to Kirkwood Ave.  
 $1'' = 200'$

112 O 29-2 Cross-town highway study from Hurdman's Road across and beyond Island Park Drive.  
 $1'' = 400'$

113 E 29-1 McArthur Road extension at Cumming's Bridge, showing approaches of proposed Rideau River Bridge to Laurier Ave. East.  
 $1'' = 200'$

114 O 29-6 City of Ottawa—Main Eastern Entrance proposals.  
 $1'' = 200'$

115 E 22-5 City of Hull—Central Area proposals.  
 $1'' = 200'$

116 O 29-3-2 Cross-town highway plan. (Rendered)  
 $1'' = 200'$

## SCALE MODELS

117 Model of the Central Area of the Capital.  
 $1'' = 100'$  hor.  $1'' = 80'$  vert.

118 Model of Confederation Park and approaches in Ottawa, including new bridge between Elgin Street and Waller Street.  
 $1'' = 30'$

*a* Alternate with City Hall West of Canal.  
*b* Alternate with City Hall East of Canal

## SKETCHES—PROPOSED WAR MEMORIAL

IN COURSE OF COMPLETION

128	No number	Graphic Superimposition of Master Plan on basic plan. 1" = 1000'
129	No number	Touristic map—diagrammatic. (In colour)
130	No number	Touristic map—showing circuits. (In colour)





Gov. Doc Canada. National Capital Planning Service  
Can Plan for the national capital, Canada,  
N 1948. Preliminary report.

DATE.

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